# **APCD Series** Air Cooled Packaged Chillers Range 4 TR to 386 TR

( 14 kW to 1358 kW )



#### **Contents**

Introduction	2
Legend	2
Nomenclature	2
General Features	3
Main Component Features	3
Optional Features	5
Microprocessor Control	5
Engineering Specifications	10
Capacity Ratings	14
Capacity Correction &	
Limits	24
Water Pressure Drop	25
Selection Procedure	26

Capacity Control Steps	27
Compressor Start Up Method	28
Power Entry Connection	28
Typical Control Panel	29
Electrical Data	30-34
Typical Wiring Diagram	36
Optional Features	100
Electrical Schematic	38
Dimensional Data	39
Location/Space Requirements	45
Application/Installation	46
Water Piping Practices	46
Unit Sizing	47
Guide Specifications	48

### Legend

The following legends are used throughout this manual:

AMBAmbient Temperature	
ARIAir Conditioning & Refrigeration	
Institute	
BTUBritish Thermal Unit	
C.CAPCooling Capacity in TR	
(kW refrigeration)	
cfmCubic feet per minute	
ECWTEntering Chilled Water Temperature	re
EEREnergy Efficiency Ratio	
GPMGallons Per Minute	
kgKilogram	
kPaKilo pascals	

lbs	Pounds
LCWT	Leaving Chilled Water
Temperatu	ire
L/S	Liter per second
mm	Millimeters
PI	Compressor Power Input in kW
Qty	Quantity
Range	FCWT-LCWT

TR.....Tons of Refrigeration

WFR .......Water flow rate
WPD .......Water Pressure Drop

kW .....Kilowatt

#### **Nomenclature**

APC D-5100BY Air Cooled **Packaged Chillers** Power Supply Code D: Discus Compressor H: Hermetic Compressor Y: 380-415V/3Ph/50Hz P: 440V/3Ph/50Hz Power Supply 5:50 Hz R: 380V/3Ph/60Hz Frequency 6:60 Hz E: 460V/3Ph/60Hz T: 220V/3Ph/60Hz Nominal Tonnage Code Vintage

#### Introduction

APCD series chillers have been designed and manufactured to provide quality performance, excellent reliability and to meet the requirements and long life from the Gulf's severe climatic condition, specially for outdoor installation, on roof or ground level. APCH/D series chillers have a superior design to provide chilled water for commercial and industrial air conditioning application and process cooling.

The modular construction permits savings in design, manufacture, installation and inventory of parts needed to effectively maintain these units.

The **APCD** series APCH/D air cooled packaged liquid chillers are available in capacity range 4-340 TR (14-1197 kW) at 50 Hz, 5-386 TR (18-1358 kW) at 60 Hz, R-22, at ARI conditions, in one single enclosure.

**APCD** series chillers are factory assembled, leak tested, evacuated, internally wired, fully charged with refrigerant. Each **APCH/D** chiller is fully factory tested before delivery and is ready for installation. All that is required on site is to connect chilled water pipes and main power supply.

**APCH/D** chillers are rated in accordance with ARI-550/590 and manufactured as per SKM Quality Standard approved by ISO 9001:2000. The design and ratings are based on refrigerant R-22.

SKM Airconditioning Equipment,



Built in the Gulf...for the World



#### **General Features**

### **High Energy Efficiency Ratio (EER)**

**APCD** chillers use high efficiency semi-hermetic compressors having the unique Discus® valve design. The EER of **APCD** is substantially higher compared to units using equivalent conventional compressors. EER ratings for **APCD** chillers at ARI conditions are listed in Capacity Ratings.

#### **Parallel Compressor Operation**

APCD chillers are equipped with single compressor models, multi compressors with independent refrigeration circuits and multiple compressors with parallel operation.

APCD chillers equipped with multiple compressors connected in parallel in order to achieve greater operating flexibility. By cycling individual compressors the system capacity can be modulated with full power savings for the compressors in operation.

By using the system of parallel compressors operation, uncomplicated unload start is achieved by a simple time delay starting of single compressors as opposed to a compressor start with the total capacity.

#### **Wide Operating Range**

**APCD** chillers are designed, as standard, to operate at a wide range of ambient temperatures from 50°F (10°C), or lower if optional low ambient operation kit is included, to 125°F (52°C) or higher to 131°F (55°C) if optional high ambient operation kit is included.

### **Main Component Features**

#### **Compressors**

Compressors used in **APCH** models are hermetically sealed, high efficiency, low noise, reciprocating while compressors used in **APCD** series are fully accessible, semi-hermetic, reciprocating type. Semi hermetic compressors are equipped with an oil sight glass, suction and discharge service valves and crankcase heater.

Semihermetic compressors are refrigerant gas cooled and equipped with an oil pressure lubrication system. The oil pump working in either direction is protected by an oil screen and a valve provided for the fitting of an oil pressure gauge. For protection, all compressors are equipped with preset internal relief valve between suction and discharge sides. The compressors are provided with vibration isolator mounting under the compressors skid and therefore, external to *APCD* chillers, AVM's may be necessary only for critical applications.

Figure 1: Compressor



The compressor motors have inherent thermal protection. This is in addition to other standard safety and protection controls. Compressors conform to DIN standards.

#### **Condensers**

Condenser coils are manufactured from seamless copper tubes mechanically bonded to aluminium fins to ensure optimum heat transfer. All coils are tested against leakage by air pressure of 450 psig (3100 kPa) under water. All standard coils are 3 or 4 rows/12 FPI, (2.1 mm fin spacing), 3/8" (9.5mm) O.D. tubes. An integral subcooling circuit is provided to increase the chiller cooling capacity, without additional operating costs.

Figure 2: Codenser Coil



For different application requirements, other optional condenser fin materials are available:

- Copper fins
- Copper fins only electrotinned
- Copper finned coil electro-tinned after manufacturing
- Precoated Aluminum fins



The pre-coated is hydrophobic polyurethane resin. This option provides substantial corrosion protection beyond standard coil construction.

Aeris Guard Coil Coating
 The Aeris Guard Coil coat is a self etching high performance modified epoxy finish that is specifically designed to coat and protect Aluminum and Copper surfaces. In addition, the coating is ideal for the protection of ferrous and non ferrous materials.

### Condenser Fans

The condenser fans are propeller type, aluminium alloy blades, directly driven by electric motors. Motors are Totally Enclosed Air Over (TEAO) six pole with class 'F' insulation and IP55 protection. The TEAO and class



Figure 3: Fan

'F' insulation features ensure long life and are unique to SKM. The motors are factory wired to chiller unit control panel where the motor starters are located to control the operation of these motors.

The condenser fans are individually statically and dynamically balanced at the factory. Complete fan assembly is provided with suitable acrylic coated fan guard.

#### **Evaporator**

All models of APCH and APCD-5009A/6011A evaporators are Brazed Plate Heat Exchangers (BPHE). Channel plates, refrigerant and water connections are constructed from stainless steel with pure copper as brazing material. BPHE design and assembly process are in compliance with Europe, Pressure Equipment Directive (PED 97/23/EC). Maximum working pressure of water side is 363 psig (2500 kPa) and refrigerant side is 392 psig (2700 kPa).

All other APCD models with larger capacity, the evaporators are shell and tube, direct expansion, removable head and having 1, 2, and 3 refrigerant circuits. Evaporator shell, header, tubesheet, refrigerant and water connections are made of carbon steel. Baffels are provided in the waterflow to increase the heat transfer effeciency. High efficiency tubes are in copper. Evaporators are provided with drain and vent plugs. Shell and tube evaporator design and material specifications, the assembly process are in compliance with the following codes: CE, GOST, UDT and ASME Standards.

Maximum working pressure of waterside is 145 psig (1000 kPa) and for refrigerant side is 363 psig (2500 kPa).

All evaporators are insulated with 1" (25mm) thick flexible closed cell insulation, having K factor of 0.26 Btu.in/ft².hr. $^{\circ}$ F (0.038 W/m. $^{\circ}$ K).

Figure 4: Evaporator



#### The Casing / Structure Frame

The unit casing in *APCD* series chillers is made of zinc coated galvanized steel sheets conforming to JIS-G 3302 and ASTM A653 which is phosphatized and baked after an electrostatic powder coat of approximately 60 microns.

This finish and coating can pass a 1000 hour in 5% salt spray testing at 95°F (35°C) and 95% RH as perASTMB117. Unit casing is provided with access doors for easy servicing/maintenance.

**APCD** chillers are assembled on rigid structural steel skid channels painted with one coat galvanized primer and one coat black enamel. The package is assembled for easy handling during transportation and robust support during installation and operation.

### **Refrigerant Piping**

The refrigeration circuit piping is fabricated from ACR grade copper piping. Each refrigeration circuit includes filter drier, liquid line solenoid valve, thermostatic expansion valve, sight glass, shut off valve and hot gas muffler. For single compressor circuits, aditional vibration eliminators are provided. After fabrication the refrigeration circuit suction line is insulated with ½" (13mm) wall thickness closed cell pipe insulation.

#### **Control Panel**

The unit mounted Control Panel enclosure is fabricated out of heavy gauge sheet steel, which is phospatized and baked after an electrostatic powder coat finish. The enclosure conforms to IP-54 as per guidelines in IEC-529. Control Panel for all APCH models and APCD-5009A and 6011A are with dead front panel cover screwed on to the enclosure. All other APCD model are with external panels with hinged doors and key fastener provided for easy access and security. These panels are ventilated through louvers and filters. The panel is factory wired in accordance with NEC-430 & 440 labeled, tagged and feature 220V/240V single, phase controls and the following as standard.



- Individual compressor and condenser fan motor contactors.
- Circuit breakers for compressors.
- Condenser fan motor protector circuit breaker.
- Anti-recycle timer to prevent rapid cycling and short cycling of compressors.
- Compressor low pressure safety switch, factory set for each circuit
- Compressor oil failure and high pressure safety switch, one each per compressor, factory set.
- Head pressure control, by fan cycling, for low ambient operation.
- · Freeze protection thermostat.
- Multi-step temperature controller to control chiller capacity.
- Control ON / OFF toggle switch for each circuit.
- Control circuit fuses.
- Manual pump-down switch for each circuit.
- Run/Trip and control ON indication lights.
- Power and control circuit terminal blocks.

Note: Standard Items are for general information and guidance. The actual supplied item may vary depending on machine size and / or series H or D.

### **Optional Features**

#### **SKM Microprocessor Controller - MAGNUM**

The Magnum Microprocessor Control System is available for APCD Series chiller as an <u>optional</u> feature. Our high energy efficient Chiller has a full function microprocessor control unit designed to keep the chiller running at its most Energy Efficient Level. The Magnum is a rugged microprocessor based controller that is designed for the hostile environment of HVAC/R industry.

Magnum provides flexibility with set points and control options that can be selected prior to commissioning a system or when the unit is live and functioning. Displays, alarms and other interfaces are accomplished in a clear and simple language that informs the user as to the status of the system. It is designed to safeguard the system that is being controlled, eliminate the need for manual intervention and to provide a simple but meaningful man-machine-interface.

This microprocessor provides complete operational control for the chiller and has built-in auto diagnostic capability that can signal off normal operation or alarm conditions as well as shutting down the chiller or system, if necessary.

#### The Main Features of the controller are as follows:

- A large graphical LCD Display (2.8" diagonal) with back-lit that can be seen in bright or dim lighting.
- A nine button generic keypad that is so user friendly, it is rarely requires a reference manual.
- Battery backed up Built in Real time clock to program the chiller for 2 starts and 2 stops daily to provide the information about the Running hours of the compressors.
- The multiple authorization levels to provide tight security of the control system.
- The system provides 'last time' enabled & disabled, number of cycles, and total run hours.
- · Automatic Lead/Lag changeover of the compressors.
- Pump-down at the beginning and end of every circuit cycle (for DX type evaporator).
- Capacity control based on leaving chilled water temperature.
   A special control zone based on leaving water temperature that reduces compressor cycling, and improved unit part load efficiency.
- START/STOP Facility from remote through Volt Free Contact (VFC) is a standard feature.
- Common Run, Fault and remote mode operation status volt free contacts provided for remote signaling.

#### **Display Information**

SKM APCD chillers offer a graphics LCD display which allows the operator to access different parameters of the chiller. Operator can view and change the setpoint of chiller parameters. The graphical display has lot of features, trending is one of the key features of graphical display, which shows last 25 samples with an appropriate scale to allow it to fit on the display.

The well designed keypad with three function keys, four direction keys and two selection keys allows the operator to navigate through different Menu, such as:

- Status
- Outputs
- Inputs
- Alarms
- Graphs
- Setpoint



- Service tools
- Lockout Reset
- Lockout Alarm
- Password

#### **System Control Philosophy**

The unit may be enabled or disabled manually or through the use of an external signal from a building automation system.

Control is based upon Leaving chilled water temperature. How fast the temperature changes is calculated and capacity decisions are based upon the rate, the current temperature, and the control temperature zone. Capacity is never added if the sytem is moving toward the temperature target at an acceptable rate. The unit will monitor all control functions and stage the compressor to maintain the required operating capacity.

(Remote adjustment of the leaving chilled water set point is accomplished through an external Building Automation System supplying a simple 0-5Vdc. signal) Specify during enquiry/order for this facility.

#### **Easy Accessible Measurements Include:**

- Current capacity status.
- Current circuit/compressor status.
- Leaving and Entering chilled water temperature.
- Evaporator pressure of each refrigerant circuit.
- · Condenser pressure of each refrigerant circuit.
- Compressor elapsed run time.
- Number of compressor starts.
- Ambient temperature.
- Lockout and alarm status with time stamped.
- Water flow switch status.
- Compressor amperage monitoring.
- Condenser fan ON/OFF status.
- Logging of Last 60 Alarms. These include:

All the abnormal conditions of sensor inputs

Power Failure

Power returned

Battery failure

Clock setting modifications

CPU reset

Ram integrity

Changed set points

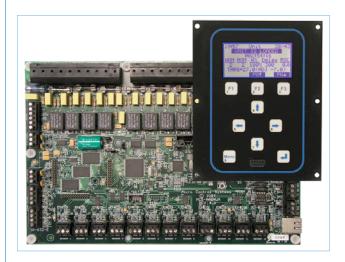
Failure of Input / Output cards

#### **System Protection**

The following system protection controls will automatically act to insure system reliability and protection of the unit.

- Low suction pressure limiting.
- High discharge pressure limiting.
- High motor temperature / over current.
- Freeze protection.
- Power loss.
- Chilled water flow loss.
- Sensor errors.
- · Pump down.
- Anti-recycle.
- Time delay between stages.
- 4-Levels of PASSWORDS to restrict the intentional mishandling.

#### **Microprocessor Controller-MAGNUM**



MAGNUM Master micro controller board with twelve 0-5vdc sensor inputs, four 5vdc digital inputs, ten 230vac 6.3A relay outputs, four 0-10vdc analog outputs, keypad, 128x64 dot pixel STN monochrome graphics LCD with 2.8" diagonal viewing area, real time clock, MCD-I/O, RS-232, RS-485 and Ethernet communication ports. User selectable 115vac or 230vac operation.



### **Optional Features available for Magnum**

#### **PC Support Software for Magnum**

MCS-Connect program provides both local and remote communications to the MAGNUM independent of the type of software. Through this program, the status of the controller can be viewed and proper authorization changes can be made to the system. Configuration files can be transmitted to or received from a Magnum unit. The Magnum automatically performs history logging; this program has complete graphic functions.

#### 485 Network

The MCS 485 Network can support up to 20 Magnums and their associated I/O's. Access to this network can be local, via RS 232 connection, or remote via 14.4K Baud modem. When using the dial up through the modem, there will be no degradation in the performance of the network. Each Magnum in the network must be assigned to a unique address when the configuration file is build using MCS-Config program. This address will be the key in establishing communications with the appropriate Magnum system. This address can be changed from the LCD/keypad of the unit. The current address of Magnum can be viewed or changed with factory authorization. RS 232 transmission should not exceed 30 feet in length and RS 485 transmission should not exceed 1 mile without repeater.

#### **Ethernet Port**

Communications can be through the 100 MBPS Ethernet communications port on the Magnum. It is necessary to use a crossover cable when connected directly to this port from a PC.

#### **Requirements for PC Software**

To install and run the program, we suggest the following system requirements:

#### Front End System Requirements

- Windows 2000 or above.
- Pentium 166 MHz or above.
- 10 Gigabyte hard disk with at least 25 Megabytes free as minimum.
- CD Drive
- Super VGA display capable of displaying 256 colors
- 64 Megabytes of RAM or more is recommended
- 19.2k baud modem

#### **BMS Communication Protocols**

Magnum supports BACnet MSTP, BACnet IP, Modbus RTU, Modbus TCP/IP, Lonworks and Johnson N2. Each protocols are supported with various baud rates.

Since green buildings are the major issue in HVAC industrry and building integration is one of the tools to save energy.

Complete control of the chillers along with the monitoring is possible if any of the above protocols are used to connect chillers to the BMS. The details of the parameters to be controlled, number of chillers in the building, the protocol, etc., are required before the order as costing of the BMS interface depends on these parameters.

#### **Hard Wired of BMS Connection**

Within the hard wire structure there are five options as follows:

#### 1. Run / Stop - (BMS to Magnum)

A Run / Stop input is provided, by chiller, to allow the end user to provide an enable / disable signal from a building management system. This input allows for a normal shutdown of the chiller package.

#### 2. Emergency Stop - (BMS to Magnum)

The EMER. STOP input is an input that allows for immediate shut down. This feature is used for safety, especially in explosion proof installations. The chiller bypasses the normal shutdown and shuts down immediately.

#### Chilled Water Reset – (BMS to Magnum) 'Max Trg Reset'

Is a function of a signal from the building management system. This value is used to adjust the control LEV LIQ TARG set point #1. The amount of the actual adjustment is proportionally based upon the associated analog input value. The analog value can be between 0 and 5 volts.

#### 4. Compressor Run – (Magnum to BMS)

This is a relay output (VFC) closure from the Chiller Controls to the BMS indicating the compressor/s is/are running.

#### 5. Alarm - (Magnum to BMS)

This is a relay output (VFC) closure from the Magnum to the BMS indicating a problem. Communications to analysis the problem may be direct at the keypad, communications through PCconnection or direct from the BMS.



#### **Factory Installed Options**

#### Low Ambient Operation Kit

(LAO)

For operation down to  $25^{\circ}\text{F}$  (-4°C) ambient. Specify minimum design ambient temperature on order.

#### **High Ambient Operation Kit**

(HAO)

For operation at reduced load at ambient temperature between 125°F (52°C) and 131°F (55°C) maximum.

#### **Alternative Condenser Material**

Made of copper tubes and alternative fin material and/or protective coats.

- For Copper Fins, specify (FC).
- For Copper Fins only electrotinned, specify (CFT)
- For Copper Finned Coils with electrotinned after manufacturing, specify (FCT).
- For Pre Coated aluminum fins, specify (FAP).
- For Aluminum Fins with Aeris Coat Protection, specify (FAA).
- For Copper Fins with Aeris Coat Protection, specify (FCA).

#### **Galvanized Frame**

(GFB)

Hot dip galvanized after manufacture, steel frame and base.

#### **IP55 Control Panel Enclosure**

(ICP)

Control Panel for special applications to meet IP55 requirements.

#### **Evaporator Casing**

(ECA/ECG/ECS)

Shell and insulation casing enclosed in a jacket/casing of aluminium, galvanized or stainless steel as required, injected with polyurethane foam.

#### **Condenser Coil Guard**

(CGP)

Coil wire mesh guard, in galvanized and painted finish for condensers.

#### **Electronic Expansion Valve**

(EEV)

To provide energy saving benefits over mechanical thermostatic expansion valve (TXV).

#### **Run Hour Meter(s)**

(RHM)

To monitor operating hours of each compressor.

#### **Main Isolator**

(ISO)

With door interlock for main power isolation. (consult SKM)

#### **Part Winding Start**

(PWS)

Where specifically required by local codes compressors may be with Part Winding Start to reduce the high in rush current at starting.

#### **Unload Start Kit**

(USK)

This option is required when the compressor needs a high starting torque such as when load is high. Not required for D50 and D60 compressors.

#### **Individual Refrigerant Circuit**

(IRC)

For independent refrigeration circuits other than standard arrangement shown, consult SKM.

#### **Load Limit Control Kit**

(LCK)

To prevent nuisance trip-out when the entering chilled water temperature is above 76°F (24.4°C) at start up or where chillers may be subject to shut down for long periods during season.

#### **Lead/Lag Control Switch**

(LLS)

To manually reverse compressors operational sequence.

#### **Voltage Monitoring Module**

(VMM)

To prevent chiller operation in the event of phase burn-out, phase reversal, and under voltage/over voltage on the incoming line voltage.

#### **Voltage Monitoring Module**

(DVM)

To meet DEWA regulations. This option is available for Dubai, UAE only.

#### **Evaporator Freeze Up Protection**

(EFP)

Heating cable with thermostat to prevent evaporator freeze-up where low ambient temperatures below 32°F (0°C) are anticipated with/out chiller operation.



#### **Ammeter & Phase Selector Switch**

(AMPC)

#### **Capacity Control Steps**

(CRS1/2)

To indicate running AMPS of each compressor. Where loads may vary greatly and finer capacity control is desired the standard control steps may not suffice. Additional capacity control steps are available as options CRS1 or CRS2.

#### **Ammeter & Phase Selector switch** (AMPI)

To indicate running AMPS on main incomer of a chiller.

#### **Options for Field Installation**

**Voltmeter & Selector Switch** 

(VSS)

For incoming line voltage.

**Chilled Water Flow Switch** (CWFS)

#### **Pressure Gauges**

Suction, discharge and oil pressure indication of each refrigerant

**Fault Status Indicator Panel** (CSIP)

#### Low Noise Fan & Motor

(LNF)

Low noise Fan & Motor assembly can be provided for applications where minimal unit sound is required.

#### Multi-chillers seq. panel

(CSQP)

with lead-lag capability for each chiller along with lead-lag option (factory installed) for compressors (Contact SKM for details)

#### **Isolated Condenser Fan & Motor**

(CMS)

For elimination of extraneous noise and vibration from condenser fan motor, the motors are individually isolated from the frame.

### Anti-vibration mounts, spring type

(CAVM)

#### **Pressure Relief Valve**

(PRV)

To protect the chiller from hi-pressure in the event of primary high pressure safeties are failed.

### **Marine Paint**

(MP)

To provide increased corrosion resistant in coastal environments and off-shore locations.

(CSE)

**Compressor Sound Enclosure** To reduce compressor sound, compressor sound enclosure with insulated panels is mounted around the compressor.

#### **Vibration Eliminator**

For parallel compressor circuiting, vibration eliminators can be provided as an option.



#### **ENGINEERING SPECIFICATIONS - 50 HZ**

D.A.	odel			APCH						APCD				
IVI	ouei		5004 A	5006 A	5008 A	5009 A	5012 A	5017 A	5018 A	5022 A	5024 A	5025 A	5030 A	5032 A
C	poling Capacity (1)	TR	4.5	6.6	8.4	10.0	13.5	18.6	19.4	23.6	25.9	27.4	32.4	32.5
C	Juling Capacity (1)	kW	15.8	23.2	29.6	35.2	47.5	65.4	68.2	83.0	91.1	96.4	114.0	114.3
C	ading Consoity (2)	TR	4.1	5.9	7.5	9.1	12.3	17.0	17.6	21.5	23.7	24.8	29.1	29.6
C	poling Capacity (2)	kW	14.3	20.7	26.3	32.0	43.3	59.8	61.9	75.6	83.4	87.2	102.3	104.1
Co	ompressor	-	Fully H	lermetic Recipi	rocating			Si	emi-Hermetic I	Reciprocating	Discus 1450 rp	om		
	Code x Qty	- x #	MT 64 x 1	MT 100 x 1	MT 125 x 1	D10 x 1	D15 x 1	D25 x 1	D10 x 2	D10 x 1	D15 x 2	D35 x 1	D40 x 1	D15 x 1
1	Oil Charge	USGal	0.5 x 1	1 x 1	1 x 1	1 x 1	1 x 1	1.1 x 1	1 x 2	1 x 1	1 x 2	1.1 x 1	2 x 1	1 x 1
	(SUNISO - 3GS)	Litre	1.8 x 1	3.9 x 1	3.9 x 1	3.7 x 1	3.7 x 1	4 x 1	3.7 x 2	3.7 x 1	3.7 x 2	4.3 x 1	7.4 x 1	3.7 x 1
	Code x Qty	- X #	-	-	-	-	-	-	-	D15 x 1	-	-	-	D25 x 1
2	Oil Charge	USGal	-	-	-	-	-	-	-	1 x 1	-	-	-	1.1 x 1
	(SUNISO - 3GS)	Litre	-	-	-	-	-	-	-	3.7 x 1	-	-	-	4 x 1
Co	ondenser Coil	-						1 \ /	fin spacing, co	11				
	Area	ft²	9.7	12.2	13.1	13.1	16.6	26.3	26.3	35.8	35.8	35.8	54.0	54.0
		m <sup>2</sup>	0.9	1.1	1.2	1.2	1.5	2.4	2.4	3.3	3.3	3.3	5.0	5.0
Co	ondenser Fan	-							t drive 960 rpn					
	Code x Qty	- X #	628 x 1	729 x 1	823 x 1	823 x 1	723 x 2	823 x 2	823 x 2	829 x 2	829 x 2	829 x 2	829 x 3	829 x 3
	Airflow Rate	cfm	4389	7454	8909	8497	13154	16994	16994	21032	21032	21032	32880	31608
_		l/s	2071	3518	4204	4010	6207	8019	8019	9925	9925	9925	15516	14916
Co	ondenser Fan Motor	-					,		insulation, 6 p					
_	Size x Qty	kW x #	0.37 x 1	1.1 x 1	1.5 x 1	1.5 x 1	0.75 x 2	1.5 x 2	1.5 x 2	1.5 x 2	1.5 x 2	1.5 x 2	1.5 x 3	1.5 x 3
E۱	vaporator	- "	11/0FT 00 1		nsion BPHE	11/00 50 . 1	105/ 1	105/ 1			on Shell & Tub		1100 1	0100 1
	Code x Qty Ref. Circuits	- X #	1V25T-28x1	1V25T-42x1	1V80-50 x 1	1V80-58 x 1	1056 x 1	1056 x 1	2056 x 1	2095 x 1	2095 x 1	1095 x 1	1120 x 1	2120 x 1
	Ref. Circuits	# USGal	0.4	0.6	0.7	0.9	4.0	4.0	4.0	5.7	5.7	5.7	7.9	7.9
	Water Volume		1.55	2.33	2.78	3.22	15.3	4.0 15.3	15.3	21.7	21.7	21.7	30.0	30.0
		Litre Lb	9.7	10.2	10.9	13.9	18.0	27.3	27.8	36.1	36.1	36.0	41.7	54.2
Re	efrigerant Charge (R22)	Kg	4.4	4.6	4.9	6.3	8.2	12.4	12.6	16.4	16.4	16.3	18.9	24.6
		I b	598	712	756	1034	1380	1550	1820	2330	2350	2141	2450	2835
0	perating Weight (Approx.)	Ka	271	323	343	469	626	703	825	1057	1066	971	1111	1286
		Νý	211	JZJ	J40	407	UZU	700	UZJ	1007	1000	711	11111	1200

D.A.	odel							AP	CD					
IVI	ouei		5120 B	5125 B	5135 B	5140 B	5145 B	5150 B	5155 B	5160 B	5165 B	5170 B	5180 B	5190 B
0.	!: (1)	TR	123.6	128.5	134.7	140.4	146.0	150.1	155.3	160.4	165.4	170.2	183.4	193.2
C	ooling Capacity (1)	kW	434.7	451.9	473.7	493.8	513.5	527.9	546.2	564.1	581.7	598.6	645.0	679.5
0.	li (2)	TR	112.7	117.0	121.3	127.1	132.7	136.9	141.6	146.2	150.7	155.1	165.2	173.5
C	poling Capacity (2)	kW	396.4	411.5	426.6	447.0	466.7	481.5	498.0	514.2	530.0	545.5	581.0	610.2
Co	ompressor	-					Semi-He	rmetic Recipro	cating Discus	1450 rpm				
	Code x Qty	- X #	D50 x 1	D60 x 3	D40 x 3	D40 x 2	D40 x 1	D50 x 4	D50 x 3	D50 x 2	D50 x 1	D60 x 4	D35 x 3	D40 x 6
1	Oil Charge	USGal	2 x 1	2 x 3	2 x 3	2 x 2	2 x 1	2 x 4	2 x 3	2 x 2	2 x 1	2 x 4	1.1 x 3	2 x 6
	(SUNISO - 3GS)	Litre	7.7 x 1	7.7 x 3	7.4 x 3	7.4 x 2	7.4 x 1	7.7 x 4	7.7 x 3	7.7 x 2	7.7 x 1	7.7 x 4	4.3 x 3	7.4 x 6
	Code x Qty	- X #	D60 x 2	-	D50 x 1	D50 x 2	D50 x 3	-	D60 x 1	D60 x 2	D60 x 3	-	D40 x 3	
2	Oil Charge	USGal	2 x 2	-	2 x 1	2 x 2	2 x 3	-	2 x 1	2 x 2	2 x 3	-	2 x 3	-
	(SUNISO - 3GS)	Litre	7.7 x 2	-	7.7 x 1	7.7 x 2	7.7 x 3	-	7.7 x 1	7.7 x 2	7.7 x 3	-	7.4 x 3	-
Co	ondenser Coil	-				Air-cooled	3 or 4 rows, 1	2 fpi (2.1mm)	. 0	pper tubes alu	minum fins			
	Area	ft²	160.0	160.0	213.3	213.3	213.3	213.3	213.3	213.3	213.3	213.3	320.0	320.0
		m <sup>2</sup>	14.9	14.9	19.8	19.8	19.8	19.8	19.8	19.8	19.8	19.8	29.7	29.7
Co	ondenser Fan	-						Propeller direc						
	Code x Qty	- X #	829 x 8	829 x 8	829 x 12	829 x 12	829 x 12	829 x 12	829 x 12	829 x 12	829 x 12	829 x 12	829 x 18	829 x 18
	Airflow Rate	cfm	86560	86560	131184	128544	126000	126000	126000	126000	126000	126000	196776	196776
		l/s	40848	40848	61906	60660	59459	59459	59459	59459	59459	59459	92859	92859
Co	ondenser Fan Motor	-		I	I			over, Class-F				T		
	Size x Qty	kW x #	1.5 x 8	1.5 x 8	1.5 x 12	1.5 x 12	1.5 x 12	1.5 x 12	1.5 x 12	1.5 x 12	1.5 x 12	1.5 x 12	1.5 x 18	1.5 x 18
E١	vaporator	-						Direct Expansion						
	Code x Qty	- X #	1390 x 1	1390 x 1	2460 x 1	2460 x 1	2460 x 1	2460 x 1	2460 x 1	2460 x 1	2460 x 1	2460 x 1	3650 x 1	3650 x 1
	Ref. Circuits	#	1	1	2	2	2	2	2	2	2	2	3	3
	Water Volume	USGal	23.8	23.8	37.8	37.8	37.8	37.8	37.8	37.8	37.8	37.8	60.8	60.8
		Litre	90.0	90.0	143.0	143.0	143.0	143.0	143.0	143.0	143.0	143.0	230.0	230.0
Re	efrigerant Charge (R22)	Lb	155.7	155.7	161.2	181.9	202.5	202.5	202.5	202.5	202.5	202.5	242.3	242.3
		Kg	70.6	70.6	73.1	82.5	91.8	91.8	91.8	91.8	91.8	91.8	109.9	109.9
0	perating Weight (Approx.)	Lb	7933	7935	9535	9887	10219	10466	10468	10470	10472	10474	14447	14546
	3 0 ,	Kg	3598	3599	4324	4484	4634	4746	4747	4748	4749	4750	6553	6597

Table 1

- 1). Capacity ratings are based on standard ARI 550 / 590 conditions of 95°F (35°C) ambient, 44°F (6.7°C) leaving chilled water temperature, 10°F (5.5°C) range and 0.0001 ft².h°F/Btu (0.018 m².°C/kW) fouling factor.
- 2). Capacity ratings are based on 115°F (46°C) ambient, 45°F (7.2°C) leaving chilled water temperature, 10°F (5.5°C) range and 0.0001 ft².h°F/Btu (0.018 m².°C/kW) fouling factor.



#### **ENGINEERING SPECIFICATIONS - 50 HZ**

MODEL								APCD							
WODEL	5034 A	5035 A	5039 A	5040 A	5050 A	5065 A	5070 A	5075 A	5080 A	5085 A	5095 B	5100 B	5105 B	5110 B	5115 B
TR	36.9	37.5	42.5	42.7	52.8	64.9	70.0	74.9	80.1	85.1	98.4	103.5	108.5	113.4	118.6
kW	129.8	131.9	149.5	150.2	185.7	228.3	246.2	263.4	281.7	299.3	346.1	364.0	381.6	398.8	417.1
TR	33.5	34.1	38.4	38.8	47.8	58.4	63.5	68.4	73.1	77.5	88.4	93.5	98.6	103.5	108.2
kW	117.8	119.9	135.1	136.5	168.1	205.4	223.3	240.6	257.1	272.6	310.9	328.8	346.8	364.0	380.5
_						Ser	mi-Hermetic F	Reciprocating	Discus 1450	rpm					
- x #	D25 x 2	D50 x 1	D25 x 1	D60 x 1	D35 x 2	D40 x 2	D40 x 1	D50 x 2	D50 x 1	D60 x 2	D40 x 3	D40 x 2	D40 x 1	D50 x 3	D50 x 2
USGal	1.1 x 2	2 x 1	1.1 x 1	2 x 1	1.1 x 2	2 x 2	2 x 1	2 x 2	2 x 1	2 x 2	2 x 3	2 x 2	2 x 1	2 x 3	2 x 2
Litre	4 x 2	7.7 x 1	4 x 1	7.7 x 1	4.3 x 2	7.4 x 2	7.4 x 1	7.7 x 2	7.7 x 1	7.7 x 2	7.4 x 3	7.4 x 2	7.4 x 1	7.7 x 3	7.7 x 2
- X #	-	-	D35 x 1	-	-	-	D50 x 1	-	D60 x 1	-	-	D50 x 1	D50 x 2	-	D60 x 1
USGal	-	-	1.1 x 1	-	-	-	2 x 1		2 x 1	-	-	2 x 1	2 x 2	-	2 x 1
Litre	-	-	4.3 x 1	-	-	-	7.7 x 1	-	7.7 x 1	-	-	7.7 x 1	7.7 x 2	-	7.7 x 1
-									cing, copper t						
ft²	54.0	54.0	54.0	54.0	80.0	106.7	106.7	106.7	106.7	106.7	160.0	160.0	160.0	160.0	160.0
m <sup>2</sup>	5.0	5.0	5.0	5.0	7.4	9.9	9.9	9.9	9.9	9.9	14.9	14.9	14.9	14.9	14.9
-		I	I	I	T	I		r direct drive		I			I		
- X #	829 x 3	829 x 3	829 x 3	829 x 3	829 x 4	829 x 6	829 x 6	829 x 6	829 x 6	829 x 6	829 x 8	829 x 8	829 x 8	829 x 8	829 x 8
cfm	31608	31608	31608	31608	44752	65592	64272	63000	63000	63000	89504	88512	87520	86560	86560
l/s	14916	14916	14916	14916	21118	30953	30330	29730	29730	29730	42237	41769	41301	40848	40848
-						,			tion, 6 pole, IF						
kW x #	1.5 x 3	1.5 x 3	1.5 x 3	1.5 x 3	1.5 x 4	1.5 x 6	1.5 x 6	1.5 x 6	1.5 x 6	1.5 x 6	1.5 x 8	1.5 x 8	1.5 x 8	1.5 x 8	1.5 x 8
-								kpansion She							
- X #	2120 x 1	1120 x 1	2120 x 1	1120 x 1	1160R x 1	1235R x 1	1235R x 1	1235R x 1	1235R x 1	1235R x 1	1390 x 1	1390 x 1	1390 x 1	1390 x 1	1390 x 1
#	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1
USGal	7.9	7.9	7.9	7.9	11.0	15.3	15.3	15.3	15.3	15.3	23.8	23.8	23.8	23.8	23.8
Litre	30.0	30.0	30.0	30.0	41.8	58.1	58.1	58.1	58.1	58.1	90.0	90.0	90.0	90.0	90.0
Lb	56.1	55.0	56.4	55.2	64.2	82.1	92.4	102.7	102.7	102.7	124.4	135.1	145.1	155.7	155.7
Kg Lb	25.4	24.9	25.6	25.0	29.1 3980	37.2 4820	41.9	46.6	46.6	46.6	56.4	61.3 7391	65.8 7653	70.6	70.6 7931
	2930	2740	3010	2790			5150	5450	5510	5600	7105			7929	
Kg	1329	1243	1365	1265	1805	2186	2336	2472	2499	2540	3222	3352	3471	3596	3597

MODEL								APCD							
MODEL	5200 B	5210 B	5220 B	5230 B	5240 B	5250 B	5260 B	5270 B	5280 B	5290 B	5300 B	5310 B	5320 B	5330 B	5340 B
TR	203.1	212.7	222.1	232.4	242.3	251.8	260.9	269.3	280.9	291.9	300.2	310.6	320.8	330.7	340.4
kW	714.3	748.1	781.1	817.4	852.2	885.6	917.6	947.1	987.9	1026.6	1055.8	1092.4	1128.3	1163.1	1197.2
TR	183.4	193.2	202.7	211.9	220.8	229.5	234.1	242.7	254.3	265.4	273.8	283.2	292.4	301.4	310.1
kW	645.0	679.5	712.9	745.3	776.6	807.2	823.3	853.6	894.4	933.4	963.0	996.0	1028.4	1060.0	1090.6
-						Ser	mi-Hermetic R	Reciprocating	Discus 1450	rpm					
- X #	D40 x 4	D40 x 2	D50 x 6	D50 x 4	D50 x 2	D60 x 6	D40 x 8	D40 x 6	D40 x 4	D40 x 2	D50 x 8	D50 x 6	D50 x 4	D50 x 2	D60 x 8
USGal	2 x 4	2 x 2	2 x 6	2 x 4	2 x 2	2 x 6	2 x 8	2 x 6	2 x 4	2 x 2	2 x 8	2 x 6	2 x 4	2 x 2	2 x 8
Litre	7.4 x 4	7.4 x 2	7.7 x 6	7.7 x 4	7.7 x 2	7.7 x 6	7.4 x 8	7.4 x 6	7.4 x 4	7.4 x 2	7.7 x 8	7.7 x 6	7.7 x 4	7.7 x 2	7.7 x 8
- X #	D50 x 2	D50 x 4	-	D60 x 2	D60 x 4		-	D50 x 2	D50 x 4	D50 x 6	-	D60 x 2	D60 x 4	D60 x 6	-
USGal	2 x 2	2 x 4	-	2 x 2	2 x 4	-	-	2 x 2	2 x 4	2 x 6	-	2 x 2	2 x 4	2 x 6	-
Litre	7.7 x 2	7.7 x 4	-	7.7 x 2	7.7 x 4		-	7.7 x 2	7.7 x 4	7.7 x 6		7.7 x 2	7.7 x 4	7.7 x 6	-
-							ws, 12 fpi (2.		cing, copper t						
ft²	320.0	320.0	320.0	320.0	320.0	320.0	426.7	426.7	426.7	426.7	426.7	426.7	426.7	426.7	426.7
m <sup>2</sup>	29.7	29.7	29.7	29.7	29.7	29.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7
-								r direct drive							
- X #	829 x 18	829 x 24													
cfm	194112	191520	189000	189000	189000	189000	262368	262368	257088	252000	252000	252000	252000	252000	252000
l/s	91601	90378	89189	89189	89189	89189	123811	123811	121320	118919	118919	118919	118919	118919	118919
-							ed air over, C								
kW x #	1.5 x 18	1.5 x 24													
- "	0/50 1	0/50 1	0/50 1	0/50 1	0/50 1	0/50 1		pansion She		04/0 0	04/0 0	04/0 0	04/0 0	04/0 0	04/0 0
- X #	3650 x 1	2460 x 2													
	60.8	60.8	60.8	60.8	60.8	60.8	75.6	4 75.6	75.6	75.6	75.6	75.6	75.6	75.6	4 75.6
USGal															
Litre	230.0	230.0	230.0	230.0	230.0	230.0	286.0	286.0	286.0 363.7	286.0	286.0	286.0	286.0	286.0	286.0
Lb	263.0	283.6 128.6	304.3 138.0	304.3	304.3 138.0	304.3 138.0	322.4 146.2	322.4 146.2	363.7 164.9	405.0 183.7	405.0 183.7	405.0 183.7	405.0 183.7	405.0 183.7	405.0 183.7
Kg Lb	119.3 15090	15594	16117	138.0 16121	16125	16130	21278	21620	22325	22988	23352	23356	23360	23364	23368
Kg	6844	7072	7309	7311	7313	7315	9650	9805	10125	10425	10590	10592	10594	10596	10598
Kg	0ŏ44	1012	1309	/311	/313	1315	9050	9805	10125	10425	10090	10092	10094	10096	10098

Table 1 ends

- 1). Capacity ratings are based on standard ARI 550 / 590 conditions of 95°F (35°C) ambient, 44°F (6.7°C) leaving chilled water temperature, 10°F (5.5°C) range and 0.0001 ft².h°F/Btu (0.018 m².°C/kW) fouling factor.
- 2). Capacity ratings are based on 115°F (46°C) ambient, 45°F (7.2°C) leaving chilled water temperature, 10°F (5.5°C) range and 0.0001 ft².h°F/Btu (0.018 m².°C/kW) fouling factor.



#### **ENGINEERING SPECIFICATIONS - 60 HZ**

Model				APCH						APCD				
Model			6005 A	6007 A	6009 A	6011 A	6014 A	6020 A	6022 A	6025 A	6028 A	6030 A	6035 A	6036 A
Cooling Consoity (1	1	TR	5.2	7.6	9.7	11.4	15.4	21.3	22.1	27.1	29.7	31.2	37.1	37.4
Cooling Capacity (1	)	kW	18.3	26.6	34.0	40.1	54.2	74.9	77.7	95.3	104.5	109.7	130.5	131.5
Cooling Capacity (2	)\	TR	4.7	6.7	8.6	10.3	14.0	19.3	20.0	24.6	27.0	28.2	33.2	34.0
Cooling Capacity (2	-)	kW	16.5	23.7	30.1	36.2	49.2	67.9	70.3	86.5	95.0	99.2	116.8	119.6
Compressor		-	Fully H	ermetic Recipi	rocating			Si	emi-Hermetic I	Reciprocating	Discus 1750 rp	om		
Code x Qty		- X #	MT 64 x 1	MT 100 x 1	MT 125 x 1	D10 x 1	D15 x 1	D25 x 1	D10 x 2	D10 x 1	D15 x 2	D35 x 1	D40 x 1	D15 x 1
1 Oil Charge		USGal	0.5 x 1	1 x 1	1 x 1	1 x 1	1 x 1	1.1 x 1	1 x 2	1 x 1	1 x 2	1.1 x 1	2 x 1	1 x 1
(SUNISO - 3GS)		Litre	1.8 x 1	3.9 x 1	3.9 x 1	3.7 x 1	3.7 x 1	4 x 1	3.7 x 2	3.7 x 1	3.7 x 2	4.3 x 1	7.4 x 1	3.7 x 1
Code x Qty		- X #	-	-	-	-		-	-	D15 x 1	-	-	-	D25 x 1
2 Oil Charge		USGal	-	-	-	-	-	-	-	1 x 1	-	-	-	1.1 x 1
(SUNISO - 3GS)		Litre	-	-	-	-	-	-	-	3.7 x 1	-	-	-	4 x 1
Condenser Coil		-								pper tubes alu				
Area		ft²	9.7	12.2	13.1	13.1	16.6	26.3	26.3	35.8	35.8	35.8	54.0	54.0
		m <sup>2</sup>	0.9	1.1	1.2	1.2	1.5	2.4	2.4	3.3	3.3	3.3	5.0	5.0
Condenser Fan		-						Propeller direct						
Code x Qty		- X #	628 x 1	729 x 1	823 x 1	823 x 1	723 x 2	823 x 2	823 x 2	829 x 2	829 x 2	829 x 2	829 x 3	829 x 3
Airflow Rate		cfm	5327	8840	10851	10355	15540	20710	20710	25480	25480	25480	39774	38286
		l/s	2514	4172	5121	4887	7333	9773	9773	12024	12024	12024	18769	18067
Condenser Fan Motor		-					,			oole, IP-55 pro				
Size x Qty		kW x #	0.55 x 1	1.5 x 1	2.2 x 1	2.2 x 1	1.1 x 2	2.2 x 2	2.2 x 2	2.2 x 2	2.2 x 2	2.2 x 2	2.2 x 3	2.2 x 3
Evaporator		- "	1) (OFT 00 1		nsion BPHE	11/00 50 . 1	105/ 1	105/ 1			on Shell & Tub		1100 1	0100 1
Code x Qty		- X #	1V25T-28x1	1V25T-42x1	1V80-50 x 1	1V80-58 x 1	1056 x 1	1056 x 1	2056 x 1	2095 x 1	2095 x 1	1095 x 1	1120 x 1	2120 x 1
Ref. Circuits		#	0.4	0.7	0.7	1	1	1.0	2	2	2	F 7	7.0	2
Water Volume		USGal	0.4	0.6 2.33	0.7 2.78	0.9 3.22	4.0 15.3	4.0 15.3	4.0 15.3	5.7 21.7	5.7 21.7	5.7 21.7	7.9	7.9 30.0
		Litre I b	1.55 9.7	10.2	10.9	13.9	18.0	27.3	27.8	36.1	36.1	36.0	30.0 41.7	54.2
Refrigerant Charge (R2	2)	Kg	4.4	4.6	4.9	6.3	8.2	12.4	12.6	16.4	16.4	16.3	18.9	24.6
		Lb	598	712	756	1034	1380	1550	1820	2330	2350	2141	2450	2835
Operating Weight (App	rox.)													
Operating Weight (App	rox.)	Kg	271	323	343	469	626	703	825	1057	1066	971	1111	1286

N.A.	odel							AP	CD					
IVI	ouei		6140 B	6145 B	6155 B	6165 B	6170 B	6175 B	6180 B	6185 B	6190 B	6195 B	6210 B	6230 B
0.	poling Capacity (1)	TR	140.5	145.9	153.2	159.9	166.3	170.9	176.6	182.2	187.7	193.1	209.0	219.9
C	poling Capacity (1)	kW	494.1	513.1	538.8	562.4	584.9	601.1	621.1	640.8	660.1	679.1	735.1	773.4
0.	!: (2)	TR	128.0	132.8	138.1	144.7	151.1	155.7	161.0	166.1	171.1	175.9	188.6	197.6
C	poling Capacity (2)	kW	450.2	467.1	485.7	508.9	531.4	547.6	566.2	584.2	601.8	618.6	663.3	695.0
Co	ompressor	-					Semi-He	rmetic Recipro	cating Discus	1750 rpm				
	Code x Qty	- X #	D50 x 1	D60 x 3	D40 x 3	D40 x 2	D40 x 1	D50 x 4	D50 x 3	D50 x 2	D50 x 1	D60 x 4	D35 x 3	D40 x 6
1	Oil Charge	USGal	2 x 1	2 x 3	2 x 3	2 x 2	2 x 1	2 x 4	2 x 3	2 x 2	2 x 1	2 x 4	1.1 x 4	2 x 6
	(SUNISO - 3GS)	Litre	7.7 x 1	7.7 x 3	7.4 x 3	7.4 x 2	7.4 x 1	7.7 x 4	7.7 x 3	7.7 x 2	7.7 x 1	7.7 x 4	4.3 x 3	7.4 x 6
	Code x Qty	- X #	D60 x 2	-	D50 x 1	D50 x 2	D50 x 3	-	D60 x 1	D60 x 2	D60 x 3	-	D40 x 3	-
2	Oil Charge	USGal	2 x 2	-	2 x 1	2 x 2	2 x 3	-	2 x 1	2 x 2	2 x 3	-	2 x 3	-
	(SUNISO - 3GS)	Litre	7.7 x 2	-	7.7 x 1	7.7 x 2	7.7 x 3	-	7.7 x 1	7.7 x 2	7.7 x 3	-	7.4 x 3	-
Co	ondenser Coil	-						2 fpi (2.1mm)			minum fins			
	Area	ft²	160.0	160.0	213.3	213.3	213.3	213.3	213.3	213.3	213.3	213.3	320.0	320.0
		m <sup>2</sup>	14.9	14.9	19.8	19.8	19.8	19.8	19.8	19.8	19.8	19.8	29.7	29.7
Co	ondenser Fan	-						Propeller direct						
	Code x Qty	- X #	829 x 8	829 x 8	829 x 12	829 x 12	829 x 12	829 x 12	829 x 12	829 x 12	829 x 12	829 x 12	829 x 18	829 x 18
	Airflow Rate	cfm	104704	104704	158688	155568	152664	152664	152664	152664	152664	152664	238032	238032
		I/s	49410	49410	74885	73413	72042	72042	72042	72042	72042	72042	112327	112327
Co	ondenser Fan Motor	-					,	over, Class-F						
	Size x Qty	kW x #	2.2 x 8	2.2 x 8	2.2 x 12	2.2 x 12	2.2 x 12	2.2 x 12	2.2 x 12	2.2 x 12	2.2 x 12	2.2 x 12	2.2 x 18	2.2 x 18
E۱	aporator	-		T	T			Direct Expansion			T	T	I	I
	Code x Qty	- X #	1390 x 1	1390 x 1	2460 x 1	2460 x 1	2460 x 1	2460 x 1	2460 x 1	2460 x 1	2460 x 1	2460 x 1	3650 x 1	3650 x 1
	Ref. Circuits	#	1	1	2	2	2	2	2	2	2	2	3	3
	Water Volume	USGal	23.8	23.8	37.8	37.8	37.8	37.8	37.8	37.8	37.8	37.8	60.8	60.8
		Litre	90.0	90.0	143.0	143.0	143.0	143.0	143.0	143.0	143.0	143.0	230.0	230.0
Re	efrigerant Charge (R22)	Lb	155.7	155.7	161.2	181.9	202.5	202.5	202.5	202.5	202.5	202.5	242.3	242.3
		Kg	70.6	70.6	73.1	82.5	91.8	91.8	91.8	91.8	91.8	91.8	109.9	109.9
0	perating Weight (Approx.)	Lb	7933	7935	9535	9887	10219	10466	10468	10470	10472	10474	14447	14546
	3 . 3 . ( ) [	Kg	3598	3599	4324	4484	4634	4746	4747	4748	4749	4750	6553	6597

Table 2

- 1). Capacity ratings are based on standard ARI 550 / 590 conditions of 95°F (35°C) ambient, 44°F (6.7°C) leaving chilled water temperature, 10°F (5.5°C) range and 0.0001 ft².h°F/Btu (0.018 m².°C/kW) fouling factor.
- 2). Capacity ratings are based on 115°F (46°C) ambient, 45°F (7.2°C) leaving chilled water temperature, 10°F (5.5°C) range and 0.0001 ft².h°F/Btu (0.018 m².°C/kW) fouling factor.



#### **ENGINEERING SPECIFICATIONS - 60 HZ**

MODEL								APCD							
WODEL	6039 A	6040 A	6046 A	6050 A	6060 A	6075 A	6080 A	6085 A	6090 A	6095 A	6110 B	6115 B	6125 B	6130 B	6135 B
TR	42.4	42.9	48.5	48.7	60.0	74.1	79.9	85.4	91.2	96.8	112.2	118.0	123.7	129.2	134.9
kW	149.1	150.9	170.6	171.3	211.0	260.6	281.0	300.4	320.8	340.4	394.6	415.0	435.1	454.4	474.4
TR	38.4	39.0	43.8	44.2	54.4	66.6	72.3	77.9	83.1	88.0	100.8	106.6	112.2	117.8	123.0
kW	135.1	137.2	154.0	155.5	191.3	234.2	254.3	274.0	292.3	309.5	354.5	374.9	394.6	414.3	432.6
-						Sei	mi-Hermetic F	Reciprocating	Discus 1750	rpm					
- X #	D25 x 2	D50 x 1	D25 x 1	D60 x 1	D35 x 2	D40 x 2	D40 x 1	D50 x 2	D50 x 1	D60 x 2	D40 x 3	D40 x 2	D40 x 1	D50 x 3	D50 x 2
USGal	1.1 x 2	2 x 1	1.1 x 1	2 x 1	1.1 x 2	2 x 2	2 x 1	2 x 2	2 x 1	2 x 2	2 x 3	2 x 2	2 x 1	2 x 3	2 x 2
Litre	4 x 2	7.7 x 1	4 x 1	7.7 x 1	4.3 x 2	7.4 x 2	7.4 x 1	7.7 x 2	7.7 x 1	7.7 x 2	7.4 x 3	7.4 x 2	7.4 x 1	7.7 x 3	7.7 x 2
- X #	-	-	D35 x 1	-	-	-	D50 x 1	-	D60 x 1	-	-	D50 x 1	D50 x 2	-	D60 x 1
USGal	-	-	1.1 x 1	-	-	-	2 x 1	-	2 x 1	-	-	2 x 1	2 x 2	-	2 x 1
Litre	-	-	4.3 x 1	-	-	-	7.7 x 1	-	7.7 x 1	-	-	7.7 x 1	7.7 x 2	-	7.7 x 1
-										ubes aluminu					
ft²	54.0	54.0	54.0	54.0	80.0	106.7	106.7	106.7	106.7	106.7	160.0	160.0	160.0	160.0	160.0
m <sup>2</sup>	5.0	5.0	5.0	5.0	7.4	9.9	9.9	9.9	9.9	9.9	14.9	14.9	14.9	14.9	14.9
-								direct drive							
- X #	829 x 3	829 x 3	829 x 3	829 x 3	829 x 4	829 x 6	829 x 6	829 x 6	829 x 6	829 x 6	829 x 8				
cfm	38286	38286	38286	38286	54168	79344	77784	76332	76332	76332	108336	107056	105856	104704	104704
l/s	18067	18067	18067	18067	25562	37442	36706	36021	36021	36021	51124	50520	49953	49410	49410
- "		000	000	00.0		_				P-55 protected		0.0	0.0	0.0.0	000
kW x #	2.2 x 3	2.2 x 3	2.2 x 3	2.2 x 3	2.2 x 4	2.2 x 6	2.2 x 6	2.2 x 6	2.2 x 6	2.2 x 6	2.2 x 8				
- "	2120 1	11001	2120 1	11001	1160R x 1	1235R x 1		cpansion She 1235R x 1		100FD 1	1390 x 1	1390 x 1	1200 1	1390 x 1	1200 1
- X #	2120 x 1	1120 x 1	2120 x 1	1120 x 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1235K X I	1235R x 1	1235R X I	1235R x 1	1235R x 1	1390 X I	1390 X I	1390 x 1	1390 X I	1390 x 1
# USGal	7.9	7.9	7.9	7.9	11.0	15.3	15.3	15.3	15.3	15.3	23.8	23.8	23.8	23.8	23.8
Litre	30.0	30.0	30.0	30.0	41.8	58.1	58.1	58.1	58.1	58.1	90.0	90.0	90.0	90.0	90.0
Lille	56.1	55.0	56.4	55.2	64.2	82.1	92.4	102.7	102.7	102.7	124.4	135.1	145.1	155.7	155.7
Ka	25.4	24.9	25.6	25.0	29.1	37.2	41.9	46.6	46.6	46.6	56.4	61.3	65.8	70.6	70.6
Lb	2930	2740	3010	2790	3980	4820	5150	5450	5510	5600	7105	7391	7653	7929	7931
Kg	1329	1243	1365	1265	1805	2186	2336	2472	2499	2540	3222	3352	3471	3596	3597
1.tg	1027	1270	1000	1200	1000	2100	2000	2112	2177	2010	ULLL	5552	3771	3370	5577

MODEL								APCD							
MODEL	6240 B	6250 B	6260 B	6270 B	6280 B	6290 B	6300 B	6310 B	6330 B	6340 B	6350 B	6360 B	6370 B	6380 B	6390 B
TR	231.2	242.1	252.7	264.0	274.9	285.5	297.0	306.4	319.9	332.6	341.8	353.3	364.5	375.4	386.1
kW	813.1	851.5	888.7	928.5	966.8	1004.1	1044.5	1077.6	1125.1	1169.8	1202.1	1242.6	1281.9	1320.3	1357.9
TR	208.8	219.7	230.4	240.7	250.6	260.2	266.8	276.1	289.5	302.3	311.4	322.0	332.2	342.2	351.9
kW	734.3	772.7	810.3	846.5	881.4	915.1	938.3	971.0	1018.2	1063.2	1095.2	1132.5	1168.3	1203.5	1237.6
-						Sei	mi-Hermetic F	Reciprocating	Discus 1750	rpm					
- X #	D40 x 4	D40 x 2	D50 x 6	D50 x 4	D50 x 2	D60 x 6	D40 x 8	D40 x 6	D40 x 4	D40 x 2	D50 x 8	D50 x 6	D50 x 4	D50 x 2	D60 x 8
USGal	2 x 4	2 x 2	2 x 6	2 x 4	2 x 2	2 x 6	2 x 8	2 x 6	2 x 4	2 x 2	2 x 8	2 x 6	2 x 4	2 x 2	2 x 8
Litre	7.4 x 4	7.4 x 2	7.7 x 6	7.7 x 4	7.7 x 2	7.7 x 6	7.4 x 8	7.4 x 6	7.4 x 4	7.4 x 2	7.7 x 8	7.7 x 6	7.7 x 4	7.7 x 2	7.7 x 8
- X #	D50 x 2	D50 x 4	-	D60 x 2	D60 x 4	-	-	D50 x 2	D50 x 4	D50 x 6	-	D60 x 2	D60 x 4	D60 x 6	-
USGal	2 x 2	2 x 4	-	2 x 2	2 x 4	-	-	2 x 2	2 x 4	2 x 6	-	2 x 2	2 x 4	2 x 6	-
Litre	7.7 x 2	7.7 x 4	-	7.7 x 2	7.7 x 4	-	-	7.7 x 2	7.7 x 4	7.7 x 6	-	7.7 x 2	7.7 x 4	7.7 x 6	-
-							ows, 12 fpi (2.		0 11						
ft²	320.0	320.0	320.0	320.0	320.0	320.0	426.7	426.7	426.7	426.7	426.7	426.7	426.7	426.7	426.7
m <sup>2</sup>	29.7	29.7	29.7	29.7	29.7	29.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7
-		I	I	I	I	I		direct drive		I	I	I	I	I	
- X #	829 x 18	829 x 24	829 x 24	829 x 24	829 x 24	829 x 24	829 x 24	829 x 24	829 x 24	829 x 24					
cfm	234864	231876	228996	228996	228996	228996	317376	317376	311136	305328	305328	305328	305328	305328	305328
l/s	110832	109422	108063	108063	108063	108063	149770	149770	146825	144084	144084	144084	144084	144084	144084
-						, ,	ed air over, C								
kW x #	2.2 x 18	2.2 x 24	2.2 x 24	2.2 x 24	2.2 x 24	2.2 x 24	2.2 x 24	2.2 x 24	2.2 x 24	2.2 x 24					
-								kpansion She							
- X #	3650 x 1	2460 x 2	2460 x 2	2460 x 2	2460 x 2	2460 x 2	2460 x 2	2460 x 2	2460 x 2	2460 x 2					
#	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4
USGal	60.8	60.8	60.8	60.8	60.8	60.8	75.6	75.6	75.6	75.6	75.6	75.6	75.6	75.6	75.6
Litre	230.0	230.0	230.0	230.0	230.0	230.0	286.0	286.0	286.0	286.0	286.0	286.0	286.0	286.0	286.0
Lb	263.0	283.6	304.3	304.3	304.3	304.3	322.4	322.4	363.7	405.0	405.0	405.0	405.0	405.0	405.0
Kg	119.3	128.6	138.0	138.0	138.0	138.0	146.2	146.2	164.9	183.7	183.7	183.7	183.7	183.7	183.7
Lb	15090	15594	16117	16121	16125	16130	21278	21620	22325	22988	23352	23356	23360	23364	23368
Kg	6844	7072	7309	7311	7313	7315	9650	9805	10125	10425	10590	10592	10594	10596	10598

Table 2 ends

- 1). Capacity ratings are based on standard ARI 550 / 590 conditions of 95°F (35°C) ambient, 44°F (6.7°C) leaving chilled water temperature, 10°F (5.5°C) range and 0.0001 ft².h°F/Btu (0.018 m².°C/kW) fouling factor.
- 2). Capacity ratings are based on 115°F (46°C) ambient, 45°F (7.2°C) leaving chilled water temperature, 10°F (5.5°C) range and 0.0001 ft².h°F/Btu (0.018 m².°C/kW) fouling factor.



### **CAPACITY RATINGS - 50 HZ**

Model	LCWT		95°E	(35°C)			105°E	(40.6°C)	onder	iser Er		7 Tempe (46.1°C)	rature	°F (°C		(48.9°C)			125°E	(51.7°C)	
		Ccap	PI	WFR	WPD	Ссар	PI	WFR	WPD		PI	WFR	WPD	Ccap	PI	WFR	WPD	Ccap	PI	WFR	WPD
APCH/D	°F	TR	kW	USgpm	ftwg	TR	kW	USgpm	ftwg	TR	kW	USgpm	ftwg	TR	kW	USgpm	ftwg	TR	kW	USgpm	ftwg
EER	<i>°C</i> 42	4.3	4.7	10.3	7.7	4.0	<i>kW</i> 5.0	<i>l/s</i> 9.7	<i>kPa</i> 6.8	<i>kW</i> 3.8	<i>kW</i> 5.3	<i>l/s</i> 9.1	<i>kPa</i> 6.0	3.7	<i>kW</i> 5.5	8.8	<i>kPa</i> 5.6	<i>kW</i> 3.5	<i>kW</i> 5.6	8.5	<b><i>kPa</i></b> 5.2
	5.6 44	15.1	4.7 4.8	0.7 10.8	22.9	14.2	5.0	0.6 10.1	7.4	13.3 4.0	5.3	0.6 9.5	17.9	12.9	5.5	0.6 9.2	16.8	12.4 3.7	5.6 5.8	0.5 8.9	15.6 5.7
5004 A	6.7	4.5 15.8	4.8	0.7	8.3 24.7	4.2 14.9	5.1 5.1	0.6	22.1	13.9	5.4 5.4	0.6	6.5 19.5	3.8 13.5	5.6 5.6	0.6	6.1 18.3	13.0	5.8	0.6	17.1
10.4	45	4.6 16.2	4.9 4.9	11.0 0.7	8.7 25.9	4.3 15.2	5.2 5.2	10.4 0.7	7.7 23.1	4.1 14.3	5.5 5.5	9.7 0.6	6.8 20.5	3.9 13.8	5.7 5.7	9.4 0.6	6.4 19.2	3.8 13.3	5.8 5.8	9.1 0.6	6.0 17.9
	7.2 48	5.0	5.0	12.0	10.1	4.7	5.4	11.3	9.1	4.4	5.7	10.7	8.1	4.3	5.9	10.3	7.6	4.2	6.1	10.0	7.2
	8.9 42	17.5 6.3	5.0 6.9	0.8 15.2	30.2 7.7	16.6 5.9	5.4 7.3	0.7 14.1	6.7	15.6 5.5	5.7 7.8	0.7 13.1	24.3 5.8	15.1 5.3	5.9 8.0	0.7 12.6	22.9 5.4	14.6 5.0	6.1 8.2	0.6 12.1	21.4 4.9
	5.6	22.2	6.9	1.0	22.9	20.7	7.3	0.9	20.0	19.2	7.8	0.8	17.3	18.5	8.0	8.0	16.0	17.7	8.2	0.8	14.8
5006 A	44 6.7	6.6 23.2	7.0 7.0	15.8 1.0	8.3 24.8	6.2 21.7	7.5 7.5	14.8 0.9	7.3 21.8	5.7 20.1	7.9 7.9	13.7 0.9	6.3 18.9	5.5 19.3	8.2 8.2	13.2 0.8	5.9 17.5	5.3 18.6	8.4 8.4	12.7 0.8	5.4 16.2
9.8	45	6.8	7.1	16.2	8.7	6.3	7.5	15.2	7.7	5.9	8.0	14.1	6.7	5.7	8.3	13.6	6.2	5.4	8.5	13.0	5.7
	7.2 48	7.3	7.1	1.0 17.5	26.0 10.1	6.9	7.5	1.0 16.5	9.0	20.7 6.4	8.0 8.4	0.9 15.4	19.9 7.9	19.9 6.2	8.3	0.9 14.8	18.5 7.3	19.1 5.9	8.5 8.9	0.8 14.3	17.1 6.8
	8.9	25.7	7.3	1.1	30.3	24.1	7.8	1.0	26.9	22.6	8.4	1.0	23.6	21.7	8.6	0.9	22.0	20.9	8.9	0.9	20.4
	42 5.6	8.1 28.5	9.3 9.3	19.5 1.2	6.0 17.9	7.5 26.5	9.9 9.9	18.1 1.1	5.3 15.8	7.0 24.5	10.4 10.4	16.7 1.1	4.6 13.7	6.7 23.5	10.7 10.7	16.0 1.0	4.2 12.6	6.4 22.5	11.0 11.0	15.3 1.0	3.9 11.7
5008 A	44 6.7	8.4 29.6	9.5 9.5	20.2 1.3	6.4 19.2	7.9 27.6	10.1 10.1	18.9 1.2	5.7 17.0	7.3 25.6	10.7 10.7	17.5 1.1	4.9 14.8	7.0 24.6	11.0 11.0	16.8 1.1	4.6 13.7	6.7 23.5	11.3 11.3	16.1 1.0	4.2 12.7
9.2	45	8.6	9.6	20.7	6.7	8.1	10.1	19.4	5.9	7.5	10.7	18.0	5.2	7.2	11.1	17.2	4.8	6.9	11.5	16.5	4.5
	7.2	30.4 9.2	9.6 9.9	1.3 22.1	7.5	28.4 8.6	10.2	1.2 20.7	17.8 6.7	26.3 8.0	10.8 11.2	1.1 19.2	15.5 5.9	25.3 7.7	11.1 11.6	1.1 18.5	14.4 5.5	7.4	11.5 11.9	1.0 17.7	13.4 5.1
	8.9	32.4	9.9	1.4	22.6	30.3	10.6	1.3	20.0	28.2	11.2	1.2	17.5	27.1	11.6	1.2	16.3	26.0	11.9	1.1	15.2
	42 5.6	9.6 33.8	8.8 8.8	23.1 1.5	6.3 18.9	9.1 31.9	9.5 9.5	21.8 1.4	5.7 17.0	8.5 29.9	10.2 10.2	20.4 1.3	5.1 15.1	8.2 28.9	10.5 10.5	19.7 1.2	4.8 14.2	7.9 27.9	10.9 10.9	19.1 1.2	4.5 13.4
	44	10.0	8.9	23.9	6.7	9.4	9.7	22.6	6.1	8.9	10.4	21.2	5.4	8.6	10.8	20.6	5.1	8.3	11.1	19.9	4.8
5009 A 11.5	6.7 45	35.1 10.2	8.9 9.0	1.5 24.5	7.0	33.1 9.6	9.7 9.8	1.4 23.1	18.2 6.3	31.1 9.1	10.4 10.5	1.3 21.8	16.3 5.7	30.1 8.8	10.8	1.3 21.1	15.3 5.4	29.1 8.5	11.1 11.3	1.3 20.4	14.4 5.0
11.0	7.2	35.8	9.0	1.5	21.0	33.9	9.8	1.5	18.9	31.9	10.5	1.4	17.0	30.9	10.9	1.3	16.0	29.8	11.3	1.3	15.1
	48 8.9	10.8 38.1	9.3 9.3	26.0 1.6	7.8 23.4	10.3 36.1	10.1 10.1	24.6 1.6	7.1 21.2	9.7 34.0	10.9 10.9	23.2 1.5	6.4 19.0	9.4 32.9	11.3	22.5 1.4	6.0 18.0	9.1 31.9	11.7 11.7	21.8 1.4	5.7 17.0
	42	13.0	12.1	31.1	6.7	12.3	13.0	29.4	6.0	11.6	14.0	27.7	5.3	11.2	14.4	26.9	4.9	10.8	14.9	26.0	4.5
	5.6 44	45.6 13.5	12.1 12.3	2.0 32.3	19.9 7.1	43.2 12.7	13.0 13.3	1.9 30.6	17.9 6.4	40.7 12.0	14.0	1.8 28.8	15.9 5.7	39.4 11.6	14.4	1.7 27.9	14.8 5.4	38.1 11.3	14.9 15.3	1.6 27.0	13.6 5.0
5012 A	6.7	47.3	12.3	2.0	21.2	44.8	13.3	1.9	19.2	42.2	14.2	1.8	17.2	40.9	14.7	1.8	16.1	39.6	15.3	1.7	14.9
11.7	45 7.2	13.8 48.5	12.4 12.4	33.1 2.1	7.4 22.1	13.0 45.9	13.4 13.4	31.3 2.0	6.7 20.1	12.3 43.3	14.4 14.4	29.5 1.9	6.0 18.0	11.9 41.9	14.9 14.9	28.6 1.8	5.7 16.9	11.5 40.6	15.5 15.5	27.7 1.7	5.3 15.8
	48	14.9	12.9	35.9	8.5	14.2	13.9	34.0	7.7	13.5	15.3	32.2	7.2	13.1	15.8	31.6	6.9	11.8	16.1	30.7	6.5
	8.9 42	52.6 18.1	12.9 17.1	2.3 43.5	25.4 12.5	49.8 17.1	13.9 18.4	2.1 41.1	23.1 11.0	47.5 16.1	15.3 19.7	2.0 38.7	21.0 9.7	46.0 15.6	15.8 20.4	1.9 37.5	19.9 9.2	41.5 15.1	16.1 21.0	1.9 36.2	19.4 8.6
	5.6 44	63.8 18.6	17.1 17.3	2.7 44.7	37.2 13.3	60.2 17.6	18.4 18.7	2.6 42.4	32.9 11.7	56.7 16.6	19.7 20.0	2.4 39.9	29.1 10.4	54.9 16.1	20.4	2.4 38.7	27.4 9.7	53.1 15.6	21.0	2.3 37.5	25.9 9.2
5017 A	6.7	65.6	17.3	2.8	39.8	62.1	18.7	2.7	35.0	58.5	20.0	2.5	31.0	56.7	20.7	2.4	29.1	54.9	21.4	2.4	27.4
11.0	45 7.2	19.0 66.7	17.5 17.5	45.5 2.9	13.9 41.6	18.0 63.2	18.9 18.9	43.1 2.7	12.2 36.5	17.0 59.7	20.2	40.7 2.6	10.8 32.2	16.5 57.9	20.9	39.5 2.5	10.1	16.0 56.1	21.6 21.6	38.3 2.4	9.5 28.5
	48	20.2	18.1	48.6	16.6	19.3	19.5	46.2	14.5	18.2	21.0	43.8	12.6	17.7	21.7	42.5	11.8	17.2	22.5	41.3	11.1
	8.9 42	71.2 18.9	18.1 17.4	3.1 45.3	49.6 13.8	67.7 17.8	19.5 18.8	2.9 42.7	43.2 12.0	64.1 16.7	21.0	2.8 40.1	37.8 10.5	62.3 16.2	21.7	2.7 38.8	35.4 9.8	60.5 15.6	22.5 21.6	2.6 37.5	9.2
	5.6	66.4	17.4	2.9	41.1	62.6	18.8	2.7	35.8	58.8	20.2	2.5	31.3	56.9	20.9	2.4	29.3	54.9	21.6	2.4	27.4
5018 A	44 6.7	19.4 68.3	17.6 17.6	46.6 2.9	14.8 44.3	18.3 64.5	19.1 19.1	44.0 2.8	12.8 38.3	17.3 60.7	20.5	41.4 2.6	11.2 33.4	16.7 58.7	21.2 21.2	40.1 2.5	10.4 31.2	16.1 56.7	22.0 22.0	38.7 2.4	9.7 29.1
11.3	45	19.8	17.8	47.4	15.5	18.7	19.2	44.9	13.4	17.6	20.7	42.2	11.6 34.8	17.0	21.5	40.9	10.9	16.5	22.2	39.5	10.2
	7.2 48	69.5 21.1	17.8 18.3	3.0 50.6	46.4 18.7	65.7 20.0	19.2 19.9	2.8 48.0	40.1 16.1	61.9 18.9	20.7	2.7 45.4	13.8	59.9 18.4	21.5 22.3	2.6 44.0	32.5 12.8	57.9 17.8	22.2	2.5 42.7	30.4 11.9
	8.9 42	74.2 22.7	18.3 20.4	3.2 54.5	56.0 8.8	70.4 21.4	19.9 22.0	3.0 51.4	48.0 7.9	66.5 20.2	21.5 23.7	2.9 48.4	41.3 7.0	64.5 19.5	22.3 24.5	2.8 46.8	38.3 6.6	62.6 18.8	23.2 25.3	2.7 45.2	35.7 6.1
	5.6	79.8	20.4	3.4	26.4	75.3	22.0	3.2	23.6	70.9	23.7	3.1	20.9	68.6	24.5	3.0	19.6	66.3	25.3	2.9	18.3
5022 A	44 6.7	23.6 83.0	20.7 20.7	56.6 3.6	9.5 28.5	22.3 78.5	22.4 22.4	53.5 3.4	8.5 25.5	21.0 73.9	24.1 24.1	50.4 3.2	7.6 22.7	20.4 71.6	25.0 25.0	48.9 3.1	7.1 21.3	19.7 69.2	25.9 25.9	47.3 3.0	6.7
11.9	45	24.1	20.9	57.9	10.0	22.9	22.7	54.9	9.0	21.5	24.4	51.7	8.0	20.9	25.3	50.1	7.5	20.2	26.3	48.5	7.0
	7.2 48	84.9 25.9	20.9 21.8	3.7 62.7	29.8 12.1	80.4 25.3	22.7	3.5 60.6	26.8 11.4	75.8 23.3	24.4 25.6	3.3 56.8	23.9 9.5	73.5 22.7	25.3 26.5	3.2 54.3	9.3	71.1 22.0	26.3 27.8	3.1 52.7	7.9
	8.9	91.1	21.8	4.0	34.6	88.9	23.9	3.8	32.2	81.9	25.6	3.6	28.7	79.8	26.5	3.4	27.6	77.4	27.8	3.3	25.3
	42 5.6	25.0 88.0	23.9	60.0 3.8	10.7 32.0	23.7 83.3	25.8 25.8	56.8 3.6	9.6 28.7	22.3 78.5	27.6 27.6	53.6 3.4	8.6 25.6	21.6 76.1	28.5 28.5	51.9 3.3	8.0 24.1	20.9 73.6	29.5 29.5	50.2 3.2	7.5 22.5
5004.4	44	25.9	24.3	62.3	11.5	24.6	26.2	59.0	10.3	23.2	28.1	55.7	9.2	22.5	29.1	54.0	8.7	21.8	30.1	52.3	8.2
5024 A 11.4	6.7 45	91.2 26.5	24.3	3.9 63.5	34.3 12.0	86.5 25.1	26.2	3.7 60.3	30.9 10.8	81.6 23.7	28.1 28.5	3.5 57.0	27.6 9.7	79.2 23.0	29.1 29.5	3.4 55.3	26.0 9.1	76.6 22.3	30.1	3.3 53.6	8.6
	7.2	93.1	24.5	4.0	35.8	88.4	26.5	3.8	32.3	83.5	28.5	3.6	28.9	81.0	29.5	3.5	27.2	78.5	30.6	3.4	25.6
	48 8.9	28.9 101.6	25.1 25.1	66.9 4.2	13.8 41.8	26.9 94.6	27.7 27.7	65.1 4.1	12.9 37.7	25.5 89.7	30.3	61.8 3.9	12.1 34.0	24.8 87.2	31.0 29.5	60.1 3.8	10.6 31.7	24.1 84.7	33.0 33.0	58.4 3.7	10.1 30.1
	42	26.5 93.2	26.5	63.6 4.0	12.0 35.8	24.9 87.7	28.4 28.4	59.8 3.8	10.6	23.3 82.1	30.2 30.2	56.0 3.5	9.3 27.9	22.6 79.3	31.2 31.2	54.1 3.4	8.7	21.8	32.2 32.2	52.3	8.1 24.3
	5.6 44	27.4	26.5 27.0	65.7	12.8	25.8	28.9	61.9	31.8 11.4	24.2	30.8	58.1	10.0	23.4	31.9	56.2	26.1 9.4	76.6 22.7	32.9	3.3 54.4	8.8
5025 A 11.0	6.7 45	96.2 27.9	27.0 27.2	4.1 66.9	38.1 13.2	90.7 26.3	28.9 29.2	3.9 63.2	34.0 11.8	85.2 24.8	30.8 31.2	3.7 59.4	30.0 10.5	82.4 24.0	31.9 32.3	3.5 57.5	28.1 9.8	79.7 23.2	32.9 33.4	3.4 55.7	26.3 9.2
11.0	7.2	98.0	27.2	4.2	39.5	92.6	29.2	4.0	35.3	87.0	31.2	3.7	31.3	84.3	32.3	3.6	29.4	81.6	33.4	3.5	27.6
	48 8.9	29.7 104.4	27.5 27.5	71.1 4.5	14.4 44.6	28.1 98.8	30.4 30.4	68.0 4.3	13.0 40.1	27.2 95.6	32.7 32.7	64.2 4.1	12.6 36.1	26.7 93.9	33.8 33.8	62.3 3.9	11.3 34.5	25.0 87.9	35.5 35.5	60.5 3.8	10.7 32.7
	42	31.4	32.2	75.3	6.7	29.4	34.2	70.6	5.8	27.5	36.3	65.9	5.1	26.5	37.4	63.5	4.7	25.5	38.5	61.2	4.4
	5.6 44	110.3 32.4	32.2 32.7	4.7 77.8	7.2	103.5 30.5	34.2	4.5 73.1	17.5 6.3	96.6 28.5	36.3 37.0	4.2 68.3	15.2 5.5	93.1 27.4	37.4 38.1	4.0 65.9	14.1 5.1	89.6 26.4	38.5 39.3	3.9 63.4	13.1 4.7
5030 A	6.7	114.1	32.7	4.9	21.4	107.1	34.9	4.6	18.8	100.1	37.0	4.3	16.3	96.5	38.1	4.2	15.2	92.9	39.3	4.0	14.1
10.5	45 7.2	33.1 116.3	33.0 33.0	79.4 5.0	7.5 22.3	31.1 109.3	35.2 35.2	74.6 4.7	6.5 19.6	29.1 102.2	37.4 37.4	69.7 4.4	5.7 17.0	28.0 98.6	38.6 38.6	67.3 4.2	5.3 15.8	27.0 95.0	39.8 39.8	64.8 4.1	4.9 14.7
	48	36.0	34.4	86.3	8.9	33.9	36.8	81.4	7.8	31.8	39.3	76.3	6.9	30.7	40.6	73.8	6.4	29.7	42.0	71.2	5.9
	8.9	126.5	34.4	5.4	26.5	119.2	36.8	5.1	23.5	111.8	39.3	4.8	20.5	108.1	40.6	4.7	19.1	104.3	42.0	4.5	17.8

Table 3



#### **CAPACITY RATINGS - 50 HZ**

Madal	LOWE								onder	nser Er		g Tempe	rature	°F (°C							
Model	LCWT	Ccap	95°F Pl	(35°C) WFR	WPD	Ccap	105°F PI	(40.6°C) WFR	WPD	Ccap	115°F PI	(46.1°C) WFR	WPD	Ccap	120°F	(48.9°C) WFR	WPD	Ccap	125°F PI	(51.7°C) WFR	WPD
APCD	°F	TR	kW	USgpm	ftwg	TR	kW	USgpm	ftwg	TR	kW	USgpm	ftwg	TR	kW	USgpm	ftwg	TR	kW	USgpm	ftwg
EER	<i>°C</i> 42	<i>kW</i> 31.4	28.3	75.3	<i>kPa</i> 6.7	<i>kW</i> 29.7	<i>kW</i> 30.6	71.2	<i>kPa</i> 5.9	<i>kW</i> 27.9	<i>kW</i> 32.8	<i>l/s</i> 67.1	5.3	27.1	33.9	65.0	<b>kPa</b> 4.9	<i>kW</i> 26.2	<i>kW</i> 35.1	//s 62.9	4.6
	5.6 44	110.4 32.5	28.3 28.8	4.8 78.0	7.2	104.3 30.7	30.6 31.1	4.5 73.7	17.8 6.4	98.3 29.0	32.8 33.4	4.2 69.5	15.7 5.7	95.2 28.1	33.9 34.5	4.1 67.4	14.7 5.3	92.1 27.2	35.1 35.7	4.0 65.2	13.8 5.0
5032 A	6.7	114.3	28.8	4.9	21.5	108.1	31.1	4.7	19.1	101.9	33.4	4.4	16.9	98.7	34.5	4.2	15.9	95.5	35.7	4.1	14.8
11.7	45 7.2	33.1 116.6	29.0 29.0	79.6 5.0	7.5 22.4	31.4 110.3	31.4 31.4	75.3 4.7	6.7 20.0	29.6 104.0	33.7 33.7	71.0 4.5	5.9 17.7	28.7 100.8	34.9 34.9	68.8 4.3	5.5 16.6	27.8 97.6	36.1 36.1	66.6 4.2	5.2 15.5
	48 8.9	36.1 127.0	30.1 30.1	86.7 5.5	8.9 26.7	34.2 120.5	32.6 32.6	82.2 5.2	8.0 24.0	32.4 113.8	35.1 35.1	77.7 4.9	7.1 21.3	31.4 110.4	36.4 36.4	75.4 4.8	6.7 20.0	30.4 107.1	37.8 37.8	73.1 4.6	6.3 18.8
	42	35.8	34.2	85.8	8.8	33.8	36.8	81.0	7.8	31.8	39.3	76.2	6.8	30.7	40.6	73.8	6.4	29.7	42.0	71.3	6.0
	5.6 44	125.8 36.9	34.2 34.7	5.4 88.7	<del>26.2</del> 9.3	118.8 34.9	36.8 37.4	5.1 83.8	23.3 8.3	111.7 32.9	39.3 40.0	4.8 78.9	20.5 7.4	108.1 31.8	40.6	4.7 76.4	19.1 6.9	104.5 30.8	42.0 42.7	4.5 73.9	17.8 6.4
5034 A	6.7	129.9	34.7	5.6	27.9	122.8	37.4	5.3	24.9	115.6	40.0	5.0	22.0	112.0	41.4	4.8	20.6	108.3	42.7	4.7	19.2
11.3	45 7.2	37.6 132.4	35.1 35.1	90.3 5.7	9.7 29.0	35.6 125.2	37.8 37.8	85.4 5.4	8.7 25.9	33.5 117.9	40.4 40.4	80.5 5.1	7.7 22.9	32.5 114.2	41.8 41.8	78.0 4.9	7.2 21.5	31.4 110.5	43.2 43.2	75.4 4.8	6.7 20.0
	48 8.9	40.7 143.1	36.4 36.4	97.6 6.2	11.3 33.7	38.6 135.7	39.3 39.3	92.6 5.8	10.2 30.5	36.5 128.3	42.2 42.2	87.5 5.5	9.1 27.2	35.4 124.5	43.7 43.7	84.9 5.4	8.6 25.6	34.3 120.6	45.3 45.3	82.3 5.2	8.0 24.0
	42	36.2	36.4	87.0	9.0	34.2	39.2	82.2	8.0	32.3	41.9	77.4	7.1	31.2	43.3	75.0	6.6	30.2	44.7	72.5	6.2
	5.6 44	127.4 37.5	36.4 37.0	5.5 90.0	26.9 9.6	120.4 35.5	39.2 39.8	5.2 85.1	23.9 8.6	113.4 33.4	41.9 42.6	4.9 80.2	7.6	109.9 32.4	43.3	4.7 77.7	19.8 7.1	106.2 31.3	44.7 45.6	4.6 75.2	18.5 6.7
5035 A 10.8	6.7 45	131.8 38.2	37.0 37.3	5.7 91.7	28.8 10.0	124.7 36.2	39.8 40.2	5.4 86.8	25.7 9.0	117.6 34.1	42.6 43.1	5.1 81.9	22.8 8.0	113.9 33.1	44.1 44.6	4.9 79.4	21.3 7.5	110.2 32.0	45.6 46.1	4.7 76.8	19.9 7.0
10.6	7.2	134.4	37.3	5.8	29.9	127.2	40.2	5.5	26.8	120.0	43.1	5.2	23.8	116.3	44.6	5.0	22.3	112.6	46.1	4.8	20.8
	48 8.9	41.4 145.6	38.7 38.7	99.4 6.3	11.7 34.9	39.3 138.3	41.8 41.8	94.4 6.0	10.6 31.6	37.2 131.0	44.9 44.9	89.4 5.6	9.5 28.4	36.2 127.1	46.6 46.6	86.8 5.5	8.9 26.7	35.0 123.2	48.2 48.2	84.1 5.3	8.4 25.1
	42	41.3	43.2	99.0	12.0	38.9	46.2	93.3	10.8	36.5	49.2	87.5	9.5	35.3	50.8	84.7	8.9	34.1	52.4	81.8	8.3
	5.6 44	145.1 42.5	43.2 43.9	6.2 102.1	36.0 12.7	136.8 40.2	46.2	5.9 96.3	32.2 11.4	128.2 37.7	49.2 50.2	5.5 90.5	28.4 10.1	124.1 36.5	50.8 51.7	5.3 87.5	26.5 9.5	119.9 35.3	52.4 53.5	5.2 84.7	24.7 8.9
5039 A 10.5	6.7 45	149.6 43.3	43.9 44.3	6.4 103.9	38.1 13.1	141.3 40.9	47.0 47.4	6.1 98.1	34.2 11.8	132.7 38.4	50.2 50.7	5.7 92.2	30.3 10.5	128.2 37.1	51.7 52.3	5.5 89.2	28.4 9.9	124.1 36.0	53.5 54.1	5.3 86.2	26.5 9.2
10.0	7.2	152.3	44.3	6.6	39.2	143.7	47.4	6.2	35.3	135.1	50.7	5.8	31.4	130.6	52.3	5.6	29.5	126.5	54.1	5.4	27.6
	48 8.9	46.4 163.0	46.1 46.1	111.3 7.0	14.8 44.2	43.9 154.4	49.4 49.4	105.4 6.7	13.5 40.3	41.5 145.8	52.9 52.9	99.6 6.3	12.2 36.3	40.2 141.3	54.8 54.8	96.5 6.1	11.5 34.3	39.0 137.2	56.7 56.7	93.6 5.9	10.8 32.4
	42	41.4 145.4	45.3 45.3	99.3	11.6 34.8	39.1 137.6	48.4 48.4	93.9 5.9	10.5 31.3	36.8	51.5 51.5	88.4 5.6	9.3 27.8	35.7	53.1 53.1	85.6 5.4	8.7	34.5 121.2	54.8 54.8	82.7 5.2	8.1 24.3
	5.6 44	42.7	46.1	6.3 102.5	12.4	40.4	49.3	97.0	11.2	129.6 38.1	52.5	91.4	9.9	125.4 36.9	54.2	88.5	9.3	35.6	55.9	85.5	8.7
5040 A 10.1	6.7 45	150.2 43.5	46.1 46.5	6.5 104.4	37.0 12.8	142.2 41.2	49.3 49.8	6.1 98.8	33.3 11.5	134.0 38.8	52.5 53.1	5.8 93.1	29.7 10.3	129.7 37.6	54.2 54.8	5.6 90.2	27.9 9.7	125.4 36.3	55.9 56.5	5.4 87.2	26.0 9.0
	7.2	152.9	46.5	6.6	38.2	144.8	49.8	6.2	34.5	136.5	53.1	5.9	30.8	132.2	54.8	5.7	28.9	127.8	56.5	5.5	27.0
	48 8.9	46.8 164.5	48.4 48.4	112.2 7.1	14.5 43.3	44.4 156.1	51.9 51.9	106.6 6.7	13.3 39.6	42.0 147.6	55.5 55.5	100.7 6.4	12.0 35.8	40.7 143.1	57.4 57.4	97.6 6.2	11.3 33.7	39.4 138.5	59.3 59.3	94.5 6.0	10.6 31.7
	42 5.6	51.1 179.9	53.3 53.3	122.8 7.7	12.1 36.1	48.2 169.4	57.0 57.0	115.6 7.3	10.7 32.0	45.1 158.7	60.7 60.7	108.3 6.8	9.4 28.2	43.6 153.4	62.6 62.6	104.7 6.6	8.8 26.4	42.1 148.2	64.6 64.6	101.1 6.4	8.3 24.7
	44	52.8	54.2	126.8	12.8	49.8	58.0	119.5	11.4	46.7	61.8	112.2	10.1	45.2	63.9	108.5	9.5	43.7	66.0	104.9	8.9
5050 A 10.5	6.7 45	185.8 53.9	54.2 54.8	8.0 129.3	38.4 13.4	175.1 50.8	58.0 58.6	7.5 122.0	34.2 11.9	164.4 47.8	61.8	7.1 114.6	30.2 10.5	159.0 46.2	63.9	6.8 111.0	28.3 9.9	153.7 44.7	66.0	6.6 107.4	26.5 9.3
	7.2 48	189.4 56.1	54.8 56.0	8.2 134.7	39.9 14.5	178.8 53.0	58.6 60.0	7.7 127.2	35.6 12.9	168.0 49.9	62.6 64.1	7.2 119.7	31.5 11.5	162.6 48.3	64.7	7.0 115.9	29.6 10.8	157.3 46.7	66.9 68.7	6.8 112.2	27.7 10.1
	8.9	197.5	56.0	8.5	43.3	186.4	60.0	8.0	38.7	175.3	64.1	7.5	34.3	169.8	66.3	7.3	32.2	164.4	68.7	7.1	30.2
	42 5.6	62.8 220.7	64.4 64.4	150.6 9.5	7.6 22.6	58.9 207.1	68.6 68.6	141.3 8.9	6.7 19.9	55.0 193.3	72.8 72.8	131.9 8.3	5.8 17.5	53.0 186.4	74.9 74.9	127.2 8.0	5.4 16.3	51.0 179.4	77.2 77.2	122.4 7.7	5.0 15.1
E0/E A	44	64.9	65.5 65.5	155.8 9.8	8.1 24.1	61.0 214.5	69.9 69.9	146.4 9.2	7.1 21.4	57.0 200.6	74.3 74.3	136.9	6.3 18.8	55.0 193.6	76.5 76.5	132.1	5.9	53.0 186.5	78.9 78.9	127.3 8.0	5.4
5065 A 10.5	45	66.3	66.2	159.2	8.4	62.4	70.7	149.8	7.5	58.4	75.2	8.6 140.3	6.6	56.4	77.6	8.3 135.4	17.5 6.1	54.4	80.1	130.6	16.3 5.7
	7.2 48	233.3 71.3	66.2	10.0 171.2	25.2 9.7	219.5 67.3	70.7 73.5	9.5 161.5	8.7	205.6 63.2	75.2 78.5	8.8 151.7	19.7 7.7	198.5 61.1	77.6 81.1	8.5 146.7	7.2	191.3 59.0	80.1 83.9	8.2 141.7	17.1 6.7
	8.9	250.8	68.6	10.8	29.0	236.7	73.5	10.2	25.9	222.3	78.5	9.6	22.9	215.0	81.1	9.3	21.5	207.6	83.9	8.9	20.0
	42 5.6	67.7 238.1	68.7 68.7	162.4 10.2	8.8 26.2	63.8 224.3	73.5 73.5	153.0 9.7	7.8 23.3	59.8 210.4	78.4 78.4	143.6 9.1	6.9 20.6	57.8 203.4	80.9 80.9	138.8 8.8	6.4 19.3	55.8 196.2	83.4 83.4	133.9 8.4	6.0 18.0
5070 A	44 6.7	70.0 246.0	69.8 69.8	167.9 10.6	9.3 27.9	66.0 232.2	74.8 74.8	158.4 10.0	8.3 24.9	62.0 218.2	79.8 79.8	148.9 9.4	7.4 22.1	60.0 211.1	82.4 82.4	144.0 9.1	6.9 20.7	58.0 203.8	85.1 85.1	139.1 8.8	6.5 19.3
10.7	45	71.4	70.5	171.5	9.7	67.5	75.6	162.0	8.7	63.5	80.8	152.4	7.7	61.5	83.5	147.6	7.3	59.4	86.3	142.6	6.8
	7.2 48	251.3 76.7	70.5 72.8	10.8 184.0	29.1 11.2	237.4 72.7	75.6 78.4	10.2 174.4	26.0 10.0	223.4 68.6	80.8 84.1	9.6 164.6	9.0	216.2 66.5	83.5 87.0	9.3 159.6	21.7 8.5	209.0 64.4	86.3 90.1	9.0 154.4	7.9
	8.9 42	269.7 72.5	72.8 72.9	11.6 174.0	33.3 10.0	255.5 68.5	78.4 78.4	11.0 164.4	30.0 9.0	241.2 64.5	84.1 84.0	10.4 154.9	26.8 8.0	233.8 62.5	87.0 86.8	10.1 150.0	25.3 7.5	226.3 60.5	90.1 89.7	9.7 145.1	7.0
	5.6	254.9	72.9	11.0	29.9	241.0	78.4	10.4	26.8	227.0	84.0	9.8	23.8	219.9	86.8	9.5	22.4	212.6	89.7	9.2	21.0
5075 A	44 6.7	74.9 263.3	74.0 74.0	179.6 11.3	10.6 31.8	70.9 249.2	79.7 79.7	170.1 10.7	9.6 28.6	66.9 235.2	85.4 85.4	160.5 10.1	8.5 25.6	64.8 228.0	88.4 88.4	155.6 9.8	8.0 24.1	62.7 220.7	91.4 91.4	150.6 9.5	7.6 22.6
10.8	45	76.4	74.7	183.3	11.1	72.4	80.5	173.8	10.0	68.4 240.6	86.4	164.2	8.9	66.4	89.4	159.3	8.4	64.3	92.5 92.5	154.3	7.9
	7.2 48	268.6 81.8	74.7 77.1	11.6 196.4	33.1 12.7	254.6 77.8	80.5 83.3	11.0 186.8	29.8 11.5	73.8	86.4 89.6	10.4 177.0	26.7 10.3	233.4 71.7	89.4 92.9	10.0 172.0	25.2 9.8	226.0 69.5	96.2	9.7 166.8	9.2
	8.9 42	287.8 77.7	77.1 81.8	12.4 186.4	37.8 11.4	273.7 73.5	83.3 87.7	11.8 176.3	34.3 10.3	259.4 69.2	89.6 93.6	11.2 166.1	30.9 9.1	252.0 67.0	92.9 96.6	10.8 160.8	29.2 8.6	244.4 64.8	96.2 99.7	10.5 155.5	27.5 8.0
	5.6	273.2	81.8	11.8	34.2	258.4	87.7	11.1	30.7	243.4	93.6	10.5	27.3	235.7	96.6	10.1	25.7	227.8	99.7	9.8	24.0
5080 A	44 6.7	80.1 281.7	83.1 83.1	192.2 12.1	12.1 36.3	75.9 266.8	89.1 89.1	182.0 11.5	10.9 32.6	71.6 251.7	95.2 95.2	171.7 10.8	9.8 29.1	69.4 243.9	98.4 98.4	166.4 10.5	9.2 27.4	67.1 235.9	101.6 101.6	161.0 10.2	8.6 25.7
10.4	45 7.2	81.6 287.0	83.9 83.9	195.9 12.4	12.6 37.6	77.4 272.1	90.0	185.7 11.7	11.4 33.9	73.1 257.0	96.3 96.3	175.4 11.1	10.2 30.4	70.9 249.3	99.5 99.5	170.1 10.7	9.6 28.6	68.6 241.2	102.9 102.9	164.6 10.4	9.0 26.8
	48	87.1	86.7	209.1	14.3	82.8	93.3	198.8	13.0	78.5	100.0	188.3	11.7	76.2	103.5	182.8	11.0	73.8	107.2	177.2	10.4
	8.9 42	306.4 82.7	86.7 90.7	13.2 198.4	42.7 12.9	291.4 78.2	93.3 96.9	12.5 187.7	38.7 11.6	275.9 73.7	100.0	11.9 176.8	34.9 10.3	<del>267.9</del> 71.3	103.5 106.4	11.5 171.2	32.9 9.7	259.7 68.9	107.2	11.2 165.4	31.0 9.1
	5.6	290.7	90.7	12.5	38.6	275.0	96.9	11.8	34.6	259.1	103.2	11.2	30.8	250.8	106.4	10.8	29.0	242.4	109.7	10.4	27.1
5085 A	44 6.7	85.1 299.3	92.1 92.1	204.2 12.9	13.7 40.8	80.6 283.5	98.5 98.5	193.4 12.2	12.3 36.7	76.0 267.4	105.0 105.0	182.5 11.5	11.0 32.8	73.7 259.0	108.4 108.4	176.8 11.2	10.3 30.8	71.2 250.4	111.9 111.9	170.9 10.8	9.7 28.9
10.1	45 7.2	86.6 304.5	93.0 93.0	207.8 13.1	14.1 42.2	82.1 288.8	99.6 99.6	197.1 12.4	12.7 38.1	77.5 272.7	106.2 106.2	186.1 11.7	11.4 34.1	75.2 264.3	109.7 109.7	180.4 11.4	10.7 32.1	72.7 255.7	113.2 113.2	174.5 11.0	10.1 30.1
	48	92.1	96.2	221.1	15.9	87.6	103.2	210.2	14.4	82.9	110.4	199.0	13.0	80.5	114.2	193.1	12.2	77.9	118.1	187.0	11.5
	8.9	324.1	96.2	14.0	47.6	308.1	103.2	13.3	43.2	291.6	110.4	12.6	38.8	283.0	114.2	12.2	36.6	274.0		11.8 3 conti	34.4

Table 3 continued



#### **CAPACITY RATINGS - 50 HZ**

	LOWE								Conde	nser Ei		Temper	ature	°F (°C)							
Model	LCWT	Ccap	95°F PI	(35°C) WFR	WPD	Ccap	105°F PI	(40.6°C) WFR	WPD	Ccap	115°F PI	(46.1°C) WFR	WPD	Ccap	120°F PI	(48.9°C) WFR	WPD	Ccap	125°F Pl	(51.7°C) WFR	WPD
APCD	°F	TR	kW	USgpm	ftwg	TR	kW	USgpm	ftwg	TR	kW	USgpm	ftwg	TR	kW	USgpm	ftwg	TR	kW	USgpm	ftwg
EER	<i>°C</i> 42	<i>kW</i> 94.9	98.1	<i>l/s</i> 227.7	14.6	<i>kW</i> 89.1	104.5	<i>l/s</i> 214.0	12.9	83.3	<i>kW</i> 110.9	//s 200.0	11.2	<i>kW</i> 80.4	<i>kW</i> 114.3	<i>l/s</i> 192.9	10.4	77.4	<i>kW</i> 117.9	<i>l/s</i> 185.8	9.5
	5.6	333.7	98.1	14.4	43.7	313.5	104.5	13.5	38.5	293.1	110.9	12.6	33.4	282.7	114.3	12.2	30.9	272.3	117.9	11.7	28.5
5095 B	44 6.7	98.4 346.2	99.9 99.9	236.2 14.9	15.7 47.0	92.6 325.6	106.6 106.6	222.2 14.0	13.9 41.5	86.6 304.7	113.4 113.4	207.9 13.1	12.1 36.3	83.6 294.1	116.9 116.9	200.7 12.7	11.3 33.7	80.6 283.4	120.6 120.6	193.4 12.2	10.4 31.1
10.6	45	100.3	100.9	240.8	16.3	94.4	107.7	226.6	14.5	88.4	114.6	212.2	12.6	85.4	118.3	204.9	11.8	82.3	122.1	197.5	10.9
	7.2 48	352.8 107.7	100.9 104.6	15.2 258.6	48.8 18.8	332.0 101.7	107.7 112.1	14.3 244.0	43.2 16.8	310.9 95.5	114.6 119.7	13.4 229.2	37.8 14.8	300.2 92.4	118.3 123.7	12.9 221.7	35.2 13.8	289.4 89.2	122.1 128.0	12.5 214.1	32.5 12.9
	8.9 42	379.0 99.8	104.6 102.4	16.3 239.5	56.1	357.6 94.0	112.1 109.5	15.4 225.7	50.1	335.9 88.2	119.7	14.5	44.2	324.9 85.2	123.7	14.0 204.5	41.4 11.7	313.8 82.2	128.0	13.5 197.3	38.5 10.9
	5.6	351.0	102.4	15.1	16.2 48.3	330.7	109.5	14.2	14.3 42.9	310.2	116.6 116.6	211.7 13.4	12.6 37.6	299.7	120.3 120.3	12.9	35.0	289.2	124.1 124.1	12.4	32.5
5100 B	44 6.7	103.5 364.1	104.3 104.3	248.4 15.7	17.4 51.9	97.6 343.4	111.6 111.6	234.3 14.8	15.5 46.2	91.7 322.4	119.0 119.0	220.0 13.9	13.6 40.7	88.6 311.8	122.9 122.9	212.8 13.4	12.7 38.0	85.6 300.9	126.9 126.9	205.4 13.0	11.8 35.3
10.7	45	105.5	105.2	253.2	18.0	99.6	112.7	238.9	16.1	93.5	120.3	224.5	14.2	90.5	124.3	217.2	13.3	87.4	128.4	209.7	12.3
	7.2 48	371.0 113.2	105.2 108.9	16.0 271.6	53.9 20.7	350.1 107.1	112.7 117.0	15.1 257.1	48.1 18.6	329.0 101.0	120.3 125.3	14.2 242.3	42.4 16.5	318.2 97.8	124.3 129.7	13.7 234.7	39.7 15.5	307.3 94.6	128.4 134.2	13.2 227.0	36.9 14.5
	8.9	398.1	108.9	17.1	61.8	376.8	117.0	16.2	55.5	355.1	125.3	15.3	49.4	344.0	129.7	14.8	46.4	332.7	134.2	14.3	43.4
	42 5.6	104.6 368.0	106.7 106.7	251.1 15.8	17.7 53.0	98.8 347.5	114.5 114.5	237.1 15.0	15.8 47.4	92.9 326.9	122.2 122.2	223.1 14.1	14.0 41.9	90.0 316.4	126.2 126.2	215.9 13.6	13.1 39.2	86.9 305.7	130.4 130.4	208.6 13.2	12.2 36.5
5105 B	44 6.7	108.5 381.6	108.6 108.6	260.4 16.4	19.0 56.9	102.6 360.8	116.6 116.6	246.2 15.5	17.1 51.0	96.6 339.8	124.7 124.7	231.9 14.6	15.1 45.3	93.6 329.1	128.9 128.9	224.6 14.2	14.2 42.5	90.4 318.1	133.2 133.2	217.1 13.7	13.3 39.6
10.8	45	110.6	109.6	265.3	19.7	104.6	117.7	251.1	17.7	98.6	126.0	236.6	15.8	95.5	130.3	229.2	14.8	92.3	134.7	221.6	13.8
	7.2 48	388.8 118.5	109.6 113.3	16.7 284.3	59.0 22.6	367.9 112.4	117.7 122.0	15.8 269.8	53.0 20.4	346.7 106.3	126.0 131.0	14.9 255.0	47.1 18.3	335.9 103.1	130.3 135.7	14.5 247.4	44.2 17.2	324.8 99.8	134.7 140.5	14.0 239.6	41.3 16.2
	8.9	416.7	113.3	17.9	67.5	395.4	122.0	17.0	61.0	373.8	131.0	16.1	54.7	362.6	135.7	15.6	51.5	351.1	140.5	15.1	48.3
	42 5.6	109.3 384.6	111.1 111.1	262.4 16.6	19.3 57.8	103.5 364.0	119.4 119.4	248.4 15.7	17.4 51.9	97.6 343.3	127.9 127.9	234.3 14.8	15.5 46.2	94.6 332.7	132.2 132.2	227.1 14.3	14.5 43.4	91.5 321.9	136.6 136.6	219.7 13.9	13.6 40.6
5110 P	44	113.4 398.7	113.0	272.1	20.7 62.0	107.4	121.6	257.9	18.7	101.5	130.4	243.5	16.7 49.9	98.4	134.9	236.1	15.7	95.2	139.5	228.6	14.7
5110 B 10.9	45	115.5	113.0 114.0	17.2 277.2	21.5	377.9 109.5	121.6 122.8	16.3 262.9	55.8 19.4	356.8 103.5	130.4 131.7	15.4 248.4	17.4	346.1 100.4	134.9 136.3	14.9 241.0	47.0 16.4	334.9 97.2	139.5 141.0	14.4 233.3	44.0 15.3
	7.2 48	406.3 123.6	114.0 117.6	17.5 296.7	64.3 24.5	385.3 117.6	122.8 127.0	16.6 282.3	58.0 22.3	364.0 111.5	131.7 136.7	15.7 267.5	51.9 20.1	353.2 108.3	136.3 141.7	15.2 259.8	48.9 19.0	341.9 105.0	141.0 146.8	14.7 251.9	45.8 17.8
	8.9	434.8	117.6	18.7	73.2	413.6	127.0	17.8	66.5	392.0	136.7	16.9	60.0	380.8	141.7	16.4	56.7	369.1	146.8	15.9	53.3
	42 5.6	114.5 402.5	120.1 120.1	274.7 17.3	21.1 63.1	108.4 381.1	128.8 128.8	260.0 16.4	19.0 56.8	102.2 359.4	137.6 137.6	245.2 15.5	16.9 50.6	99.0 348.2	142.2 142.2	237.6 15.0	15.9 47.5	95.8 336.8	146.8 146.8	229.8 14.5	14.9 44.5
E11E D	44	118.6	122.2	284.6 18.0	22.6 67.6	112.4	131.2	269.7 17.0	20.4 60.9	106.1 373.1	140.4	254.6	18.2	102.9	145.1	246.8	17.1	99.5 350.0	150.0 150.0	238.8	16.1
5115 B 10.6	45	417.0 120.8	122.2 123.3	289.8	23.4	395.2 114.5	131.2 132.5	274.8	21.1	108.2	140.4 141.8	16.1 259.6	54.5 18.9	361.7 104.9	145.1 146.7	15.6 251.7	51.3 17.8	101.5	151.6	15.1 243.6	48.0 16.7
	7.2 48	424.7 128.9	123.3 127.5	18.3 309.4	70.0 26.6	402.8 122.6	132.5 137.3	17.3 294.3	63.2 24.1	380.4 116.1	141.8 147.3	16.4 278.7	56.6 21.7	368.9 112.8	146.7 152.6	15.9 270.6	53.3 20.5	357.0 109.3	151.6 158.0	15.4 262.2	50.0 19.3
	8.9	453.4	127.5	19.5	79.4	431.2	137.3	18.6	72.1	408.4	147.3	17.6	64.9	396.6	152.6	17.1	61.3	384.3	158.0	16.5	57.7
	42 5.6	119.4 419.9	129.0 129.0	286.5 18.1	22.9 68.5	113.0 397.6	138.1 138.1	271.3 17.1	20.6 61.6	106.6 374.9	147.4 147.4	255.8 16.1	18.4 55.0	103.3 363.2	152.1 152.1	247.9 15.6	17.3 51.7	99.8 351.2	157.0 157.0	239.6 15.1	16.2 48.3
E120 B	44	123.6 434.7	131.4 131.4	296.7 18.7	24.5 73.2	117.1 412.0	140.8	281.2	22.1	110.6 388.8	150.4 150.4	265.3 16.7	19.7 59.0	107.2	155.3	257.2	18.6	103.6 364.5	160.4	248.7	17.4
5120 B 10.3	6.7 45	125.8	132.7	302.0	25.3	119.3	140.8 142.2	17.7 286.4	66.0 22.9	112.7	152.0	270.4	20.5	376.9 109.2	155.3 157.1	16.2 262.1	55.5 19.3	105.7	160.4 162.3	15.7 253.6	52.0 18.1
	7.2 48	442.5 134.0	132.7 137.2	19.1 321.7	75.8 28.6	419.7 127.4	142.2 147.5	18.1 305.8	68.4 26.0	396.2 120.6	152.0 158.0	17.1 289.5	61.2 23.4	384.1 117.1	157.1 163.5	16.5 281.0	57.6 22.1	371.6 113.4	162.3 169.2	16.0 272.3	54.0 20.8
	8.9	471.4	137.2	20.3	85.5	448.2	147.5	19.3	77.6	424.3	158.0	18.3	69.9	411.8	163.5	17.7	66.0	399.0	169.2	17.2	62.0
	42 5.6	124.2 436.7	138.0 138.0	298.0 18.8	24.7 73.9	117.6 413.6	147.5 147.5	282.2 17.8	22.3 66.5	110.9 389.9	157.1 157.1	266.1 16.8	19.9 59.4	107.4 377.6	162.1 162.1	257.6 16.3	18.6 55.7	103.8 365.0	167.2 167.2	249.1 15.7	17.5 52.2
5125 B	44 6.7	128.5 451.8	140.7 140.7	308.3 19.5	26.4 78.8	121.8 428.3	150.4 150.4	292.3 18.4	23.8 71.1	114.9 404.1	160.4 160.4	275.7 17.4	21.3 63.6	111.3 391.5	165.6 165.6	267.2 16.9	20.0 59.8	107.6 378.5	170.9 170.9	258.3 16.3	18.7 56.0
10.1	45	130.7	142.1	313.7	27.3	124.0	152.0	297.5	24.6	117.0	162.2	280.8	22.0	113.4	167.5	272.1	20.7	109.6	172.9	263.1	19.4
	7.2 48	459.8 138.9	142.1 147.0	19.8 333.4	81.5 30.6	436.0 132.1	152.0 157.6	18.8 317.0	73.6 27.8	411.5 125.0	162.2 168.7	17.7 299.9	65.9 25.0	398.8 121.2	167.5 174.5	17.2 291.0	62.0 23.6	385.6 117.3	172.9 180.4	16.6 281.6	58.1 22.2
	8.9 42	488.6 129.9	147.0 134.2	21.0 311.9	91.6 13.7	464.5 122.3	157.6 143.3	20.0 293.6	83.1 12.2	439.5 114.7	168.7 152.4	18.9 275.2	74.7 10.8	426.4 110.8	174.5 157.2	18.4	70.5 10.1	412.7 106.8	180.4 162.2	17.8 256.4	9.4
	5.6	457.0	134.2	19.7	41.0	430.3	143.3	18.5	36.5	403.3	152.4	17.4	32.3	389.6	157.2	265.9 16.8	30.2	375.7	162.2	16.2	28.2
5135 B	44 6.7	134.7 473.6	136.5 136.5	323.2 20.4	14.7 44.0	126.9 446.4	146.0 146.0	304.6 19.2	13.1 39.2	119.1 418.8	155.6 155.6	285.8 18.0	11.6 34.7	115.1 404.8	160.5 160.5	276.3 17.4	10.9 32.5	111.1 390.6	165.7 165.7	266.6 16.8	10.2 30.4
10.5	45	137.1	137.7	329.0	15.2	129.2	147.4	310.2	13.6	121.3	157.1	291.2	12.0	117.3	162.2	281.5	11.3	113.2	167.5	271.7	10.5
	7.2 48	482.1 146.1	137.7 142.1	20.8 350.7	45.5 17.2	138.1	147.4 152.5	19.6 331.6	40.6 15.5	426.7 130.0	157.1 163.1	18.4 312.0	36.0 13.7	125.9	162.2 168.7	17.8 302.1	33.7 12.9	398.2 121.7	167.5 174.5	17.1 292.0	12.1
	8.9 42	513.9 135.5	142.1 137.4	22.1 325.2	51.5 14.9	485.9 127.8	152.5 147.2	20.9 306.8	46.2 13.3	457.3 120.1	163.1 157.1	19.7 288.3	41.1 11.8	442.7 116.2	168.7 162.1	19.1 278.9	38.6 11.1	427.9 112.2	174.5 167.4	18.4 269.4	36.2 10.4
	5.6	476.5	137.4	20.5	44.5	449.6	147.2	19.4	39.8	422.5	157.1	18.2	35.3	408.7	162.1	17.6	33.1	394.7	167.4	17.0	31.0
5140 B	44 6.7	140.4 493.9	139.8 139.8	337.0 21.3	16.0 47.7	132.6 466.5	149.9 149.9	318.3 20.1	14.3 42.7	124.8 438.9	160.1 160.1	299.5 18.9	12.7 38.0	120.8 424.8	165.4 165.4	289.9 18.3	11.9 35.7	116.7 410.5	170.9 170.9	280.1 17.7	11.2 33.4
10.7	45 7.2	142.9 502.7	140.9 140.9	343.0 21.6	16.5 49.4	135.1 475.1	151.3 151.3	324.2 20.5	14.8 44.2	127.1 447.1	161.7 161.7	305.1 19.3	13.2 39.4	123.1 432.9	167.1 167.1	295.4 18.6	12.4 37.0	119.0 418.4	172.7 172.7	285.5 18.0	11.6 34.6
	48	152.3	145.2	365.5	18.7	144.3	156.2	346.3	16.8	136.2	167.5	326.8	15.0	132.0	173.3	316.8	14.2	127.8	179.4	306.6	13.3
	8.9 42	535.6 140.8	145.2 140.8	23.1 338.0	55.8 16.0	507.5 133.1	156.2 151.3	21.8 319.5	50.3 14.4	478.9 125.4	167.5 161.8	20.6 300.9	44.9 12.8	464.3 121.4	173.3 167.2	20.0 291.5	42.3 12.1	449.3 117.4	179.4 172.7	19.3 281.9	39.7 11.3
	5.6	495.2	140.8	21.3	48.0	468.1	151.3 153.9	20.2 331.5	43.0	440.9	161.8	19.0	38.3	427.1	167.2 170.4	18.4	36.0	413.1	172.7	17.8 293.1	33.8
5145 B	6.7	146.0 513.3	143.1 143.1	350.3 22.1	17.2 51.4	138.1 485.7	153.9	20.9	15.5 46.2	130.2 458.1	164.8 164.8	312.6 19.7	13.8 41.2	126.2 443.9	170.4	303.0 19.1	13.0 38.8	122.1 429.5	176.2 176.2	18.5	12.2 36.4
10.9	45 7.2	148.6 522.5	144.2 144.2	356.5 22.5	17.8 53.2	140.7 494.7	155.3 155.3	337.6 21.3	16.0 47.9	132.7 466.7	166.3 166.3	318.5 20.1	14.3 42.7	128.6 452.5	172.0 172.0	308.8 19.5	13.5 40.3	124.5 437.9	177.9 177.9	298.8 18.9	12.6 37.8
	48	158.2	148.4	379.6	20.1	150.2	160.1	360.4	18.2	142.1	172.0	340.9	16.3	137.9	178.1	330.9	15.4	133.6	184.5	320.7	14.5
	8.9 42	556.3 144.8	148.4 145.8	23.9 347.6	16.9	528.1 137.1	160.1 156.9	22.7 329.1	54.3 15.2	499.6 129.4	172.0 168.1	21.5 310.5	48.8 13.6	485.0 125.4	178.1 173.8	20.9 301.0	46.0 12.8	469.9 121.4	184.5 179.7	20.2 291.3	43.3 12.0
	5.6 44	509.3	145.8	21.9	50.6	482.2	156.9	20.8	45.5	455.0	168.1	19.6	40.7	441.1	173.8	19.0	38.3	426.9	179.7	18.4	36.0
5150 B	6.7	150.1 527.9	148.2 148.2	360.2 22.7	18.2 54.3	142.2 500.3	159.7 159.7	341.4 21.5	16.4 48.9	134.4 472.6	171.3	322.5 20.3	14.7 43.8	130.3 458.4	177.2 177.2	312.8 19.7	13.8 41.3	126.2 443.9	183.2 183.2	302.9 19.1	13.0 38.8
10.8	45 7.2	152.8 537.3	149.4 149.4	366.6 23.1	18.8 56.2	144.9 509.5	161.1 161.1	347.7 21.9	17.0 50.7	136.9 481.5	172.8 172.8	328.6 20.7	15.2 45.4	132.8 467.2	178.8 178.8	318.8 20.1	14.3 42.8	128.7 452.5	185.0 185.0	308.8 19.5	13.5 40.3
	48	162.5	153.7	390.0	21.2	154.5	166.0	370.9	19.2	146.4	178.6	351.5	17.3	142.3	185.1	341.4	16.4	137.9	191.7	331.1	15.4
	8.9	571.6	153.7	24.6	63.4	543.5	166.0	23.4	57.5	515.0	178.6	22.2	51.8	500.3	185.1	21.5	48.9	485.2	191.7	20.9	46.1

Table 3 continued

Capacity ratings are based on 10°F (5.5°C) range and 0.0001 ft<sup>2</sup>.h°F/Btu (0.018 m<sup>2</sup>.°C/kW) fouling factor.



#### **CAPACITY RATINGS - 50 HZ**

Marco   Property   P										Conde	enser E	ntering	g Tempe	rature	°F (°C	)						
The color   The	Model	LCWT	0			WDD	0		(40.6°C)			115°F	(46.1°C)			120°F (		LWDD	0			LWDD
10.6	APCD	°F					TR														WFR USgpm	WPD ftwg
15.56   1.072   1.014   27.7   12.6   27.7   12.6   27.8   10.7   10.0   27.5   10.0	EER																				//s 301.6	<i>kPa</i> 12.9
5156   6		5.6	527.3	154.6	22.7	54.2	499.3	166.1	21.5	48.7	471.1	177.6	20.3	43.5	456.7	183.6	19.7	41.0	441.9	189.6	19.0	38.5
12   150		6.7	546.2	157.3	23.5	58.0	517.7	169.1	22.3	52.3	489.0	181.0	21.1	46.8	474.3	187.2	20.4	44.1	459.1	193.5	313.3 19.8	13.9 41.4
46 1079 1032 2009 220 1090 1700 3831 202 10170 1890 2079 208 1 1060 1997 2020 320 1070 2000 2000 2000 2000 2000 2000 20	10.6					20.1	149.9 527.1	170.6 170.6	359.7 22.7			182.7 182.7			137.4 483.2						319.2 20.1	14.4 42.9
16.6   6448   1644   214   215   277   516.0   175.2   227   519   6869   1872   210   6464   4739   195.2   203.1   437   4666   1969   1978   197		48	167.9	163.2	402.9	22.6	159.6	176.0	383.1	20.5	151.2	189.0	362.9	18.4	146.8	195.7	352.4	17.4	142.3	202.6	341.6	16.4
54   150.4   160.3   186.9   207   182.1   178.5   36.49   186.   145.6   190.8   344.6   10.7   1992   1992   34.2   15.7   134.8   203.7   201.8   184.8   189.8   24.8   26.		42	154.9	163.4	371.8	19.3	146.7	175.2	352.1	17.4	138.4	187.2	332.3	15.5	134.2	193.3	322.1	14.6	129.8	199.6	21.6 311.6	49.0 13.7
																					19.7 323.4	41.0 14.7
17.2   17.7   17.7   24.7   63.9   34.4   1801   22.4   77.0   71.2   192.7   72.1   19.1   19.27   72.1   19.2   19.3   13.5		6.7	564.1	166.3	24.3	61.8	534.8	178.5	23.0	55.7	505.0	190.8	21.7	49.8	489.7	197.2	21.1	46.9	474.0	203.7	20.4 329.4	44.0 15.3
88   6097   1728   222   710   7577   1859   249   649   5480   1993   226   864   8321   2003   329   851   713   270   720	10.4	7.2	573.9	167.7	24.7	63.9	544.3	180.1	23.4	57.6	514.2	192.7	22.1	51.6	498.7	199.1	21.5	48.6	482.8	205.8	20.8	45.6
42   1988   1722   385.5   205   151.4   184.3   30.3   185   142.8   196.7   342.8   16.5   384.8   230.3   332.2   15.5   133.9   209.5   20															151.3 532.1		22.9				351.9 22.2	17.4 51.9
54				172.2	383.5		151.4	184.3	363.3	18.5	142.8	196.7	342.8	16.5	138.4	203.0	332.2		133.9	209.5	321.4 20.3	14.6 43.5
10.2   45   108.2   176.8   403.7   22.7   1995   1896   28.2   20.4   150.7   20.2   27.8   34.5   151.9   20.9   35.07   11.2   151.9   20.1   20		44	165.4	175.3	396.9	21.9	156.8	187.8	376.3	19.8	148.0	200.6	355.3	17.7	143.5	207.2	344.5	16.7	138.9	213.9	333.3	15.6
17.2   991.6   176.8   25.5   677   561.0   1896   242   611   530.0   202.0   228   547   513.0   2003   221   155   578   573   212.4   224.4   36.0   36.0   37.2   27.2   24.4   36.0   37.2   3																					21.0 339.4	46.7 16.2
42   1645   1809   3949   217   1559   1924   3742   196   1471   2062   393.1   175   1266   2127   342.1   164   1379   2194   33   35   35   35   35   35   35   3		7.2	591.5	176.8	25.5	67.7	561.0	189.6	24.2	61.1	530.0	202.6	22.8	54.7	513.9	209.3	22.1	51.5	497.3	216.2	21.4 361.8	48.4
5.6   5787   1809   249   649   548   1914   235   528   5174   2104   265   273   574   2172   216   491   4849   2194   24   24   24   24   24   24   24		8.9	626.6	182.3	27.0	75.8	595.6	195.8	25.6	68.7	563.9	209.7	24.3	61.7	547.3	216.9	23.6	58.2	530.3	224.4	22.8	18.3 54.8
101   102   103   104   107   108   103   108				180.9 180.9								206.2									330.9 20.9	15.4 46.0
101   45   7731   186.0   415.4   24.0   164.2   1991   394.0   21.6   155.1   21.5   3721   19.3   150.3   21.9   43.608   18.2   145.4   22.65   24.8   48.8   183.1   191.8   499.4   26.7   774.1   1901   49.4   64.6   45.3   21.5   23.5   57.8   52.67   52.6   20.5   23.6   30.5   154.8   335.2   33.6   20.5   154.8   335.2   33.6   20.5   154.8   335.2   33.6   20.5   154.8   335.2   33.6   20.5   154.8   335.2   33.6   20.5   154.8   335.2   33.6   20.5   154.8   335.2   33.6   20.5   154.8   335.2   33.6   20.5   154.8   335.2   33.6   20.5   154.8   335.2   33.6   20.5   154.8   335.2   33.6   20.5   154.8   335.2   33.6   20.5   154.8   335.2   33.6   20.5   154.8   335.2   33.6   20.5   154.8   335.2   33.6   20.5   154.8   335.2   33.6   20.5   154.8   335.2   33.6   20.5   154.8   335.2   33.6   20.5   154.8   335.2   33.6   20.5   23.8   33.6   20.5   23.8   33.6   20.5   23.8   33.6   20.5   23.8   33.6   20.5   23.8   23.6   23.8   23.6   23.8	E170 D	44	170.2	184.3	408.5	23.2	161.4	197.2	387.3	20.9	152.4	210.4	365.7	18.7	147.7	217.2	354.5	17.6	142.9	224.2	343.0	16.5
84   1831   1918   4994   267   1740   2667   4177   242   1647   2200   3953   218   1598   2275   383.6   205   1548   2352   235   242   4170   7173   3424   8132   166.6   1855   3999   177   5234   610   1508   2377   729   720		45	173.1	186.0	415.4	24.0	164.2	199.1	394.0	21.6	155.1	212.5	372.1	19.3	150.3	219.4	360.8	18.2	145.4	226.5	21.6 349.0	49.3 17.1
8.9   6439   1918   277   799   6121   2057   264   724   5793   2200   249   65.0   56.2   2775   242   614   5443   2352   235   566   6125   77.0   73.3   24.8   332   24.8   332   36.0   56.0   37.3   37.4   57.0   73.3   37.4   57.0   73.3   37.4   57.0   73.3   37.4   57.0   73.3   37.4   57.0   73.3   73.4   57.0   73.3   73.4   57.0   73.3   73.4				186.0 191.8	26.2 439.4			199.1 205.7	24.9 417.7						528.7 159.8		22.8 383.6				22.0 371.4	51.1 19.3
56   6226   1733   268   394   586.0   185.5   252   35.1   548.9   197.5   236   30.9   530.3   203.7   22.8   28.9   511.5   210.1   22.8   188.8   17.6   24.5		8.9	643.9	191.8	27.7	79.9	612.1	205.7	26.4	72.4	579.3	220.0	24.9	65.0	562.2	227.5	24.2	61.4	544.3	235.2	23.4	57.6
10.8   6.1   64.9   17.6   17.8   42.2   60.77   18.8   26.2   37.6   50.9   201.3   24.5   33.3   55.08   207.8   23.7   31.1   53.17   214.5   22.16   37.2   22.6   66.8   177.6   24.8   43.6   176.1   190.5   24.2   52.1   16.5   203.3   39.5   51.6   51.8   29.9   24.2   23.4   54.5   21.6   8.2   21.6   8.2   22.6   8.2   23.6   23.6   2					26.8				25.2			197.5	23.6		530.3		22.8				349.1 22.0	9.0 27.0
10.8     45     186   177.6   448   2   14.6   176.1   190.5   422.6   131   165   203.3   396.5   11.6   1597   2099   383.3   108   154.2   21.68   37.8     48   199.1   183.0   477.9   16.5   1882   196.8   451.0   14.8   177.0   210.6   424.9   13.2   171.4   217.8   411.4   12.4   165.8   225.4   39.8     50   40   192.5   448.0   14.6   176.4   205.2   421.0   13.0   164.0   217.7   392.6   11.4   188.3   224.3   379.9   10.6   152.5   231.3   25.5     50   50   66.6   170.5   448.0   14.6   176.4   205.2   421.0   13.0   164.0   217.7   392.6   11.4   188.3   224.3   379.9   10.6   152.5   231.3   25.5     50   50   66.6   170.5   428.0   14.6   176.4   205.2   421.0   13.0   164.0   217.7   392.6   11.4   188.3   224.3   379.9   10.6   152.5   231.2   36.5     50   50   66.6   170.5   428.0   42.6	5180 B			176.1 176.1		14.1		188.8	414.7		162.0	201.3			156.6		375.9			214.5	362.8 22.9	9.7 29.1
8		45	186.8	177.6	448.2	14.6	176.1	190.5	422.6	13.1	165.2	203.3	396.5	11.6	159.7	209.9	383.3	10.8	154.2	216.8	370.2	10.1
8.9   700.3   183.0   30.2   494.   661.8   196.8   285.   443.   622.6   210.6   26.8   394.   602.9   217.8   26.0   37.1   583.1   225.4   225.5   225.5   48.0   414.6   175.4   205.2   421.0   31.0   164.0   217.7   393.6   115.83   224.3   30.9   91.6   152.5   231.2   36.5   56.6   56.5   192.5   248.3   43.7   616.9   205.2   26.6   38.7   57.7   217.7   24.8   34.0   556.7   224.3   24.0   31.8   536.3   231.2   32.5   32.									451.6						171.4	209.9					23.4 397.9	30.2 11.6
54   550   59.5   59.				183.0	30.2	49.4	661.8	196.8	28.5	44.3	622.6	210.6	26.8	39.4	602.9	217.8	26.0	37.1	583.1	225.4	25.1 366.0	34.8
10.4   67		5.6	656.5	192.5	28.3	43.7	616.9	205.2	26.6	38.7	576.7	217.7	24.8	34.0	556.7	224.3	24.0	31.8	536.3	231.2	23.1	9.9 29.6
10.4   45	5190 B							208.9	436.3 27.5		170.2 598.6	222.1								236.2	380.2 24.0	10.7 31.8
88		45	196.7	197.5	472.2	16.2	185.2	210.9	444.4	14.4	173.5	224.4	416.3	12.7	167.5	231.5	402.1	11.9	161.6	238.9	387.7	11.1
42   196.2   200.8   470.8   16.1   184.9   214.8   443.7   14.3   173.5   228.7   416.3   12.7   167.7   235.9   402.4   11.9   161.8   243.4   24.8   24		48		203.7	502.6	18.2	197.6	218.1	474.3	16.3	185.6	232.9	445.4	14.4	179.5	240.6	430.8	13.5	173.3	248.7	24.5 416.0	33.1 12.7
500 B   67   714.3   204.2   887.4   71.2   191.6   218.6   849.8   154.8   180.0   233.1   31.9   33.9   13.9   13.7   174.1   220.6   42.8   168.1   248.5   42.8   169.1   248.5   42.8   44.8   20.1   24.8			736.6 196.2	203.7	31.7 470.8		695.0 184.9	218.1	29.9 443.7	48.7 14.3	652.7 173.5	232.9	28.1 416.3	43.2 12.7	631.3 167.7	240.6			609.6 161.8	248.7	26.2 388.3	37.9 11.1
\$\begin{align*} \begin{align*} \be		5.6	690.0	200.8	29.7	48.0	650.2	214.8	28.0	42.9	610.0	228.7	26.3	37.9	589.7	235.9	25.4	35.5	569.1	243.4	24.5	33.2
10.5	5200 B											233.1									403.4 25.5	11.9 35.7
48   219.9   212.1   527.8   20.0   208.1   227.8   499.5   18.0   196.1   243.8   470.6   16.1   190.0   252.2   456.0   15.1   183.7   260.9   24	10.5			205.9			195.2 686.4	220.6	468.4 29.5		183.4 645.1	235.5	440.2 27.8							251.1 251.1	411.4 26.0	12.4 37.1
42   205.5   209.2   493.2   17.6   194.1   224.4   465.9   15.7   182.7   239.7   237.7   41.9   622.0   247.5   242.5   13.2   170.9   255.6   41.7		48	219.9	212.1	527.8	20.0	208.1	227.8	499.5	18.0	196.1	243.8	470.6	16.1	190.0	252.2	456.0	15.1	183.7	260.9	441.0	14.2
5.6         722.7         209.2         31.1         52.5         682.7         224.4         29.4         47.1         642.4         239.7         27.7         41.9         622.0         247.5         26.8         39.4         601.2         255.6         22           5210 B         6.7         748.1         212.6         510.5         18.8         201.2         228.3         48.8         15.9         24.2         28.7         45.0         645.7         252.3         420.6         11.7         7.2         76.15         214.3         519.7         19.4         204.9         230.3         31.0         52.0         66.6         244.2         28.7         45.0         645.7         252.3         440.1         11.7         181.1         263.4         43           4.2         214.3         32.8         80.0         720.6         30.3         31.0         52.2         670.2         246.5         19.2         246.6         89.2         246.5         242.2         244.6         242.2         143.3         247.5         233.3         19.7         206.3         254.8         31.2         52.9         704.1         263.8         480.5         16.7         19.9         202.7         257.7 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>227.8</td> <td></td> <td></td> <td></td> <td>243.8</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>255.6</td> <td>27.8 410.3</td> <td>42.4 12.3</td>								227.8				243.8								255.6	27.8 410.3	42.4 12.3
10.7				209.2	31.1	52.5	682.7	224.4	29.4	47.1	642.4	239.7	27.7	41.9	622.0	247.5	26.8	39.4	601.2	255.6	25.9 426.1	12.3 36.9 13.3 39.7
7.2		6.7	748.1	212.6	32.2	56.1	707.5	228.3	30.5	50.4	666.6		28.7	45.0	645.7	252.3	27.8	42.3	624.5	260.7	26.9	39.7
8.9         809.3         220.5         34.8         65.2         767.8         237.5         33.1         58.9         725.7         254.8         31.2         52.9         704.1         263.8         30.3         49.9         682.0         273.1         29           5.6         754.8         217.5         515.1         19.1         203.2         234.1         487.6         17.2         191.7         250.7         460.1         15.4         185.8         259.2         244.0         14.5         179.9         267.9         43           5220 B         6.7         781.2         221.0         533.1         20.4         210.5         238.0         505.3         18.4         198.9         255.2         477.3         16.5         192.9         264.0         463.0         15.6         186.8         273.0         44           5220 B         6.7         781.2         221.0         533.1         204.2         230.1         531.1         290.0         245.0         257.1         212.8         43.0         230.0         507.7         230.0         509.4         285.2         30.1         49.3         678.5         264.0         465.0         275.7         450.0         242.8 <th< td=""><td>10.7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>434.6 27.4</td><td>13.8 41.2</td></th<>	10.7																				434.6 27.4	13.8 41.2
42         214.6         217.5         515.1         19.1         203.2         234.1         487.6         17.2         191.7         250.7         460.1         15.4         485.8         259.2         244.60         14.5         779.9         267.9         43           5220 B         6.7         754.8         217.5         53.1         20.4         210.5         238.0         50.53         18.4         198.9         255.2         477.3         16.5         192.9         264.0         463.0         15.6         186.8         273.0         24           10.7         45         226.1         222.1         33.6         60.9         740.4         238.0         31.9         55.0         699.4         255.2         30.1         49.3         678.5         264.0         420.1         15.6         186.8         273.0         22           45         226.1         222.8         342.6         211.7         214.4         240.1         514.6         19.0         202.7         257.6         486.4         17.1         196.7         266.5         29.8         46.5         29.8         48.3         670.0         275.7         45           48         240.0         228.9																					465.4 29.4	15.7 47.0
5220 B         44         222.1         221.0         533.1         20.4         210.5         238.0         505.3         18.4         198.9         255.2         477.3         16.5         192.9         264.0         463.0         15.6         186.8         273.0         44           10.7         45         226.1         222.8         542.6         21.1         214.4         240.1         31.4         198.9         255.0         49.3         678.5         264.0         29.2         46.5         657.1         273.0         28           48         240.0         229.8         34.2         63.0         754.1         240.1         32.5         56.9         712.8         257.6         30.7         51.1         691.7         266.5         29.8         48.3         670.0         275.7         28           48         240.0         228.9         36.3         70.7         802.8         247.3         547.8         21.5         216.3         265.9         519.2         19.4         210.2         275.5         504.4         18.3         203.8         275.7         22           40         224.6         234.9         539.1         20.8         247.3         252.1		42	214.6	217.5	515.1	19.1	203.2	234.1	487.6	17.2	191.7	250.7	460.1	15.4	185.8	259.2	446.0	14.5	179.9	267.9	431.7	13.6
5220 B         6.7         781.2         221.0         33.6         60.9         740.4         238.0         31.9         55.0         699.4         255.2         30.1         49.3         678.5         264.0         29.2         46.5         657.1         273.0         22           45         226.1         222.8         542.6         211.1         214.4         240.1         514.6         19.0         202.7         257.6         486.4         17.1         196.7         266.5         29.2         46.8         36.7         275.7         45           48         240.0         228.9         576.1         23.6         228.3         247.3         547.8         21.5         216.3         265.9         519.2         19.4         210.2         275.5         504.4         18.3         203.8         285.4         48           42         224.6         234.9         539.1         20.8         212.7         252.1         510.5         18.8         200.7         269.5         481.7         16.8         194.6         278.4         467.0         278.4         467.0         285.4         33.8         48.2         250.1         280.7         269.5         481.7         16.8         194.6 </td <td></td> <td>27.2 448.4</td> <td>40.7 14.6</td>																					27.2 448.4	40.7 14.6
7.2         795.1         222.8         34.2         63.0         754.1         240.1         32.5         56.9         712.8         257.6         30.7         51.1         691.7         266.5         29.8         48.3         670.0         275.7         26           48         240.0         228.9         576.1         23.6         228.3         247.3         547.8         21.5         216.3         265.9         519.2         19.4         210.2         275.5         504.4         18.3         203.8         285.4         48           42         224.6         234.9         539.1         20.8         212.7         252.1         510.5         18.8         200.7         269.5         481.7         16.8         194.6         278.4         467.0         15.8         188.3         287.5         45           5.6         790.0         234.9         34.0         62.3         748.2         252.1         32.2         56.1         706.0         269.5         348.1         16.8         194.6         278.4         467.0         15.8         188.3         287.5         45           5.0         79.0         234.9         34.0         62.3         2748.5         32.6		6.7	781.2	221.0	33.6	60.9	740.4	238.0	31.9	55.0	699.4	255.2	30.1	49.3	678.5	264.0	29.2	46.5	657.1	273.0	28.3	43.7
8.9         844.2         228.9         36.3         70.7         802.8         247.3         34.6         64.2         760.8         265.9         32.8         57.9         739.2         275.5         31.8         54.8         716.8         285.4         33           5.6         790.0         234.9         334.0         62.3         748.2         252.1         510.5         18.8         200.7         269.5         481.7         16.8         194.6         278.4         467.0         15.8         188.3         287.5         45           5230 B         44         232.4         238.8         355.7         22.2         220.3         256.6         528.6         20.1         208.1         274.5         499.3         18.0         201.8         283.8         484.3         17.0         195.4         293.2         46           5230 B         6.7         817.2         238.8         355.7         22.2         220.3         256.6         528.6         20.1         208.1         274.5         499.3         18.0         201.8         283.8         484.3         17.0         195.4         293.2         246           5230 B         817.2         238.8         355.7         222.2<	10.7											257.6								275.7	457.2 28.8	15.2 45.4
42         24.6         234.9         539.1         20.8         212.7         252.1         510.5         18.8         200.7         269.5         481.7         16.8         194.6         278.4         467.0         15.8         188.3         287.5         45           5230 B         44         232.4         234.8         557.7         222.2         220.3         256.6         252.6         20.1         208.1         274.5         499.3         18.0         20.1         20.1         208.1         274.5         499.3         18.0         20.1         208.1         274.5         499.3         18.0         20.1         208.1         274.5         499.3         18.0         20.18         283.8         484.3         17.0         195.4         293.2         265.6         20.1         208.1         274.5         499.3         18.0         20.18         283.8         484.3         17.0         195.4         293.2         265.8         20.1         208.1         274.5         499.3         18.0         20.18         283.8         484.3         17.0         195.4         293.2         265.4         20.1         283.8         30.6         50.7         687.1         293.2         265.8         20.1																					489.2 30.9	17.3 51.7
5230 B         44         232.4         238.8         557.7         22.2         220.3         256.6         528.6         20.1         208.1         274.5         499.3         18.0         201.8         283.8         484.3         17.0         195.4         293.2         46           10.5         45         236.4         240.8         557.4         23.0         224.2         258.9         538.2         20.8         211.9         277.2         508.6         18.6         205.6         286.6         493.4         17.6         199.1         296.2         47           7.2         831.4         240.8         35.8         68.7         788.6         258.9         340.0         62.0         745.3         277.2         323.0         286.6         493.4         17.6         199.1         296.2         47           48         250.5         247.7         361.3         257.7         238.2         266.9         571.7         233.2         225.7         286.3         541.6         210.2         296.4         536.0         19.9         212.5         306.8         33.4         26.8         770.8         296.4         33.2         59.4         747.2         306.8         33.2         20.		42	224.6	234.9	539.1	20.8	212.7	252.1	510.5	18.8	200.7	269.5	481.7	16.8	194.6	278.4	467.0	15.8	188.3	287.5	451.9	14.9
5230 B         6,7         817.2         238.8         35.2         66.4         774.7         256.6         33.4         60.0         731.7         274.5         31.5         53.8         709.7         283.8         30.6         50.7         687.1         293.2         22           45         236.4         240.8         556.7.4         23.0         224.2         258.9         538.2         20.8         211.9         277.2         508.6         18.6         205.6         286.6         493.4         17.6         199.1         296.2         23           48         250.5         247.7         601.3         25.7         238.2         266.9         571.7         23.3         225.7         286.3         541.6         21.0         219.2         296.4         526.0         19.9         212.5         306.8         50           8.9         881.1         247.7         37.9         76.7         837.8         266.9         36.1         69.7         793.6         286.3         34.2         62.8         770.8         296.4         33.2         59.4         747.2         306.8         33           42         234.3         252.2         352.6         275.2         322.8																					28.5 468.9	44.4 15.9
7.2         831.4         240.8         35.8         68.7         788.6         258.9         34.0         62.0         745.3         277.2         32.1         55.7         723.0         286.6         31.1         52.5         700.1         296.2         30           48         250.5         247.7         601.3         25.7         238.2         266.9         571.7         23.3         225.7         286.3         541.6         21.0         219.2         296.4         526.0         19.9         212.5         306.8         50           42         234.3         252.2         562.4         22.6         222.0         270.2         532.8         204.4         290.5         288.3         502.8         18.2         203.1         297.7         487.4         17.2         196.5         307.2         47           5.6         824.2         252.2         35.5         67.5         780.8         270.2         33.6         60.9         736.8         288.3         31.7         54.5         714.2         297.7         30.7         51.3         691.0         307.2         22           44         242.3         256.6         581.4         24.1         229.7         275.1			817.2	238.8	35.2	66.4	774.7	256.6	33.4	60.0	731.7	274.5	31.5	53.8	709.7	283.8	30.6	50.7	687.1	293.2	29.6 477.8	47.6 16.5
8.9         881.1         247.7         37.9         76.7         837.8         266.9         36.1         69.7         793.6         286.3         34.2         62.8         770.8         296.4         33.2         59.4         747.2         306.8         33.2           42         234.3         252.2         562.4         22.6         222.0         270.2         532.8         20.4         209.5         288.3         502.8         18.2         203.1         297.7         487.4         17.2         196.5         307.2         47           5.6         824.2         252.2         35.5         67.5         780.8         270.2         33.6         60.9         736.8         288.3         31.7         54.5         714.2         297.7         30.7         17.3         60.9         736.8         288.3         31.7         54.5         714.2         297.7         30.7         17.3         60.9         736.8         288.3         31.7         54.5         714.2         297.7         30.7         17.3         49.0         30.2         29.2         293.9         520.7         19.5         210.4         303.5         504.9         18.4         203.6         313.4         48	10.5	7.2	831.4	240.8	35.8	68.7	788.6	258.9	34.0	62.0	745.3	277.2	32.1	55.7	723.0	286.6	31.1	52.5	700.1	296.2	30.1	49.4
42         234.3         252.2         562.4         22.6         222.0         270.2         532.8         20.4         209.5         288.3         502.8         18.2         203.1         297.7         487.4         17.2         196.5         307.2         47           5.6         824.2         252.2         35.5         67.5         780.8         270.2         33.6         60.9         736.8         288.3         31.7         54.5         714.2         297.7         30.7         51.3         691.0         307.2         29           44         242.3         256.6         581.4         24.1         229.7         275.1         551.3         21.7         216.9         293.9         520.7         19.5         210.4         303.5         504.9         18.4         203.6         313.4         48           5240 B         45         246.4         258.8         591.3         24.9         233.7         277.6         560.9         22.5         220.8         296.7         530.0         20.2         214.2         306.6         514.1         19.0         207.4         316.7         49           10.3         45         246.4         258.8         591.3         24.9								266.9 266.9				286.3 286.3				296.4 296.4			212.5 747.2		509.9 32.2	18.7 55.9
44     242.3     256.6     581.4     24.1     229.7     275.1     551.3     21.7     216.9     293.9     520.7     19.5     210.4     303.5     504.9     18.4     203.6     313.4     48       5240 B     6.7     852.0     256.6     36.7     71.9     807.8     275.1     34.8     65.0     763.0     293.9     32.8     58.2     739.9     303.5     504.9     18.4     203.6     313.4     48       10.3     45     246.4     258.8     591.3     24.9     233.7     277.6     560.9     22.5     220.8     296.7     530.0     20.2     214.2     306.6     514.1     19.0     207.0     31.9     49.9       10.3     45     246.4     258.8     591.3     24.9     233.7     277.6     560.9     22.5     220.8     296.7     530.0     20.2     214.2     306.6     514.1     19.0     207.0     315.0		42	234.3	252.2	562.4	22.6	222.0	270.2	532.8	20.4	209.5	288.3	502.8	18.2	203.1	297.7	487.4	17.2	196.5	307.2	471.5	16.1
5240 B         6.7         852.0         256.6         36.7         71.9         807.8         275.1         34.8         65.0         763.0         293.9         32.8         58.2         739.9         303.5         31.9         54.9         716.1         313.4         30           10.3         45         246.4         258.8         591.3         24.9         233.7         277.6         560.9         22.5         220.8         296.7         530.0         20.2         214.2         306.6         514.1         19.0         207.4         316.7         49		44	242.3	256.6	581.4	24.1	229.7	275.1	551.3	21.7	216.9	293.9	520.7	19.5	210.4	303.5	504.9	18.4	203.6	313.4	29.7 488.6	48.2 17.3
								275.1							739.9				716.1 207 4		30.8 497.6	51.6 17.9
	10.0	7.2	866.5	258.8	37.3	74.3	822.0	277.6	35.4	67.2	776.7	296.7	33.4	60.3	753.4	306.6	32.4	56.8	729.3	316.7	31.4	53.4
																					529.8 33.4	20.1 60.2

Table 3 continued



### **CAPACITY RATINGS - 50 HZ**

Model	LCWT		0=	(0506)			40		Conde	enser E	U	Tempera	ature '	'F (°C)	40	(40.000)			40555	(F.4. 70.5)	
wodei	LCWI	Ccap	95°F Pl	(35°C) WFR	WPD	Ccap	105°F (	(40.6°C) WFR	WPD	Ccap	115°F (	46.1°C) WFR	WPD	Ccap	120°F (	(48.9°C) WFR	WPD	Ccap	125°F (	(51.7°C) WFR	WPE
APCD	°F	TR	kW	USgpm	ftwg	TR	kW	USgpm	ftwg	TR	kW	USgpm	ftwg	TR	kW	USgpm	ftwg	TR	kW	USgpm	ftwg
EER	<i>℃</i> 42	242.7	240 F	<i>l/s</i>	<b>kPa</b> 24.4	<i>kW</i>	<i>kW</i> 288.2	<i>l/s</i>	<b>kPa</b> 22.0	<i>kW</i> 218.0	<i>kW</i> 307.2	<i>l/s</i> 523.2	kPa	<i>kW</i>	<i>kW</i> 316.9	<i>l/s</i> 507.1	<b>kPa</b> 18.5	<i>kW</i> 204.4	<i>kW</i> 326.9	//s	17.4
	5.6	243.7 857.3	269.5 269.5	585.0 36.9	72.8	231.0 812.4	288.2	554.4 35.0	65.7	766.7	307.2	33.0	19.7 58.8	211.3 743.1	316.9	32.0	55.4	718.7	326.9	490.5 30.9	51.9
ESEA D	44	251.8	274.3	604.4	25.9 77.5	238.8	293.6	573.2	23.4	225.5	313.2	541.3	21.0	218.7	323.3	524.8	19.8	211.6	333.6	507.8	18.6
5250 B 10.0	6.7 45	885.7 256.0	274.3 276.8	38.1 614.5	26.8	839.9 242.9	293.6 296.3	36.2 583.0	70.0	793.3 229.5	313.2 316.3	34.2 550.8	62.7 21.7	769.1 222.5	323.3 326.6	33.1 534.1	59.1 20.5	744.1 215.4	333.6 337.2	32.0 516.8	55.5 19.2
	7.2	900.4	276.8	38.8	80.0	854.3	296.3	36.8	72.3	807.2	316.3	34.7	64.9	782.7	326.6	33.7	61.1	757.4	337.2	32.6	57.4
	48 8.9	270.4 950.8	285.2 285.2	648.9 40.9	29.7 88.8	257.0 904.0	305.8 305.8	616.9 38.9	27.0 80.6	243.3 855.8	327.1 327.1	584.0 36.8	24.3 72.6	236.2 830.6	338.2 338.2	566.8 35.8	22.9 68.5	228.7 804.5	349.6 349.6	549.0 34.6	21.6 64.4
	42	251.7	258.1	604.1	12.9	236.5	275.1	567.7	11.5	221.2	292.1	530.9	10.1	213.4	300.9	512.3	9.4	205.6	310.2	493.5	8.8
	5.6 44	885.2 260.9	258.1 262.6	38.1 626.1	38.6 13.8	831.9 245.4	275.1 280.4	35.8 589.0	34.2 12.3	778.0 229.7	292.1 298.1	33.5 551.4	30.1 10.8	750.7 221.8	300.9 307.4	32.3 532.3	28.1 10.1	723.2 213.8	310.2 317.2	31.1 513.1	9.4
5260 B 10.5	6.7 45	917.5 265.5	262.6 264.9	39.5 637.3	41.4 14.3	863.1 249.9	280.4 283.0	37.2 599.8	36.8 12.7	808.0 234.1	298.1 301.2	34.8 561.7	32.4 11.2	780.1 226.0	307.4 310.7	33.6 542.5	30.3 10.5	751.9 217.9	317.2 320.7	32.4 523.0	9.8
10.5	7.2	933.9	264.9	40.2	42.8	878.9	283.0	37.8	38.1	823.2	301.2	35.4	33.6	795.0	310.7	34.2	31.4	766.5	320.7	33.0	29.3
	48 8.9	283.3 996.4	273.5 273.5	679.9 42.9	16.2 48.5	267.3 940.1	293.0 293.0	641.5 40.5	14.5	251.0 882.7	312.9 312.9	602.4	12.8	242.7 853.7	323.3 323.3	582.6 36.8	12.0	234.4	334.2 334.2	562.6 35.5	11.3 33.6
	42	259.9	268.3	623.7	13.7	244.7	286.6	587.2	43.3 12.2	229.3	304.9	38.0 550.4	38.4 10.8	221.6	314.4	531.7	36.0 10.1	824.4 213.7	324.3	512.8	9.4
	5.6 44	914.0 269.3	268.3	39.4 646.4	41.0 14.7	860.6	286.6 292.0	37.0 609.2	36.5 13.1	806.6	304.9	34.7 571.6	32.3 11.6	779.2 230.2	314.4 321.1	33.5 552.5	30.2 10.9	751.5 222.1	324.3 331.5	32.4 533.2	28.2 10.2
5270 B	6.7	947.3	273.1 273.1	40.8	44.0	253.9 892.8	292.0	38.4	39.2	238.2 837.7	311.1 311.1	36.1	34.7	809.7	321.1	34.9	32.5	781.3	331.5	33.6	30.4
10.5	45 7.2	274.1 964.1	275.5 275.5	657.9 41.5	15.2 45.5	258.5 909.1	294.7 294.7	620.4 39.1	13.6 40.6	242.7 853.4	314.3 314.3	582.4 36.7	12.0 36.0	234.6 825.1	324.4 324.4	563.0 35.5	11.3 33.7	226.4 796.4	335.1 335.1	543.4 34.3	10.5 31.5
	48	292.3	284.3	701.4	17.2	276.3	305.0	663.1	15.5	260.0	326.2	624.1	13.7	251.7	337.3	604.2	12.9	243.3	348.9	584.0	12.1
	8.9 42	1027.9 271.0	284.3 274.8	44.3 650.3	51.5 14.9	971.7 255.7	305.0 294.5	41.8 613.6	46.2 13.3	914.5 240.3	326.2 314.1	39.4 576.6	41.1 11.8	885.4 232.4	337.3 324.2	38.1 557.8	38.6 11.1	855.7 224.5	348.9 334.7	36.8 538.7	36.2 10.4
	5.6	953.0	274.8	41.0	44.5	899.2	294.5	38.7	39.8	845.0	314.1	36.4	35.3	817.4	324.2	35.2	33.1	789.5	334.7	34.0	31.0
5280 B	44 6.7	280.9 987.8	279.5 279.5	674.1 42.5	16.0 47.7	265.3 933.0	299.8 299.8	636.7 40.2	14.3 42.7	249.6 877.7	320.3 320.3	598.9 37.8	12.7 38.0	241.6 849.6	330.8 330.8	579.8 36.6	11.9 35.7	233.4 821.0	341.8 341.8	560.2 35.3	11.2 33.4
10.7	45	285.9	281.9	686.1	16.5	270.1	302.5	648.4	14.8	254.3	323.4	610.2	13.2	246.2	334.1	590.8	12.4	237.9	345.3	571.1	11.6
	7.2 48	1005.4 304.6	281.9 290.4	43.3 731.0	49.4 18.7	950.1 288.6	302.5 312.5	40.9 692.6	44.2 16.8	894.3 272.3	323.4 335.0	38.5 653.6	39.4 15.0	865.8 264.0	334.1 346.7	37.3 633.7	37.0 14.2	836.8 255.5	345.3 358.8	36.0 613.3	34.6 13.3
	8.9	1071.2	290.4	46.1	55.8	1015.0	312.5	43.7	50.3	957.8	335.0	41.2	44.9	928.6	346.7	40.0	42.3	898.7	358.8	38.7	39.7
	42 5.6	281.6 990.5	281.5 281.5	675.9 42.6	16.0 48.0	266.2 936.3	302.5 302.5	638.9 40.3	14.4 43.0	250.7 881.9	323.6 323.6	601.8 38.0	12.8 38.3	242.9 854.2	334.3 334.3	582.9 36.8	12.1 36.0	234.9 826.1	345.4 345.4	563.7 35.6	11.3 33.8
	44	291.9	286.2	700.6	17.2	276.2	307.9	662.9	15.5	260.5	329.6	625.2	13.8	252.5	340.8	605.9	13.0	244.3	352.3	586.2	12.2
5290 B 10.9	6.7 45	1026.6 297.1	286.2 288.5	44.2 713.1	51.4 17.8	971.5 281.3	307.9 310.5	41.8 675.1	46.2 16.0	916.1 265.4	329.6 332.7	39.4 637.0	41.2 14.3	887.9 257.3	340.8 344.1	38.2 617.5	38.8 13.5	859.1 249.0	352.3 355.8	37.0 597.6	36.4 12.6
10.7	7.2	1044.9	288.5	45.0	53.2	989.4	310.5	42.6	47.9	933.4	332.7	40.2	42.7	904.9	344.1	39.0	40.3	875.8	355.8	37.7	37.8
	48 8.9	316.3 1112.5	296.8 296.8	759.2 47.9	20.1 60.1	300.3 1056.3	320.2 320.2	720.8 45.5	18.2 54.3	284.1 999.2	344.0 344.0	681.9 43.0	16.3 48.8	275.8 969.9	356.3 356.3	661.9 41.8	15.4 46.0	267.2 939.9	369.0 369.0	641.4 40.5	14.5 43.3
	42	289.6	291.7	695.1	16.9	274.2	313.9	658.1	15.2	258.7	336.3	620.9	13.6	250.8	347.7	602.0	12.8	242.8	359.3	582.7	12.0
	5.6 44	1018.7 300.2	291.7 296.5	43.9 720.4	50.6 18.2	964.4 284.5	313.9 319.4	41.5 682.8	45.5 16.4	909.9 268.7	336.3 342.5	39.2 645.0	40.7 14.7	882.2 260.7	347.7 354.4	38.0 625.6	38.3 13.8	853.8 252.4	359.3 366.5	36.8 605.8	36.0 13.0
5300 B	6.7	1055.7	296.5	45.5	54.3	1000.6	319.4	43.1	48.9	945.2	342.5	40.7	43.8	916.8	354.4	39.5	41.3	887.8	366.5	38.2	38.8
10.8	45 7.2	305.5 1074.5	298.9 298.9	733.2 46.3	18.8 56.2	289.7 1018.9	322.1 322.1	695.3 43.9	17.0 50.7	273.8 963.0	345.6 345.6	657.1 41.5	15.2 45.4	265.7 934.4	357.7 357.7	637.6 40.2	14.3 42.8	257.3 904.9	370.0 370.0	617.5 39.0	13.5 40.3
	48	325.0	307.4	780.1	21.2	309.1	332.1	741.8	19.2	292.9	357.2	702.9	17.3	284.5	370.1	682.9	16.4	275.9	383.5	662.2	15.4
	8.9 42	1143.1 299.9	307.4 309.2	49.2 719.7	63.4 18.1	1087.0 283.9	332.1 332.1	46.8 681.4	57.5 16.3	1030.1 267.9	357.2 355.3	44.3 643.0	51.8 14.6	1000.7 259.7	370.1 367.1	43.1 623.3	48.9 13.7	970.3 251.3	383.5 379.2	41.8 603.2	46.1 12.9
	5.6	1054.6	309.2	45.4	54.2	998.6	332.1	43.0	48.7	942.2	355.3	40.6	43.5	913.4	367.1	39.3	41.0	883.9	379.2	38.1	38.5
5310 B	44 6.7	310.6 1092.4	314.5 314.5	745.5 47.0	19.4 58.0	294.4 1035.5	338.2 338.2	706.6 44.6	17.5 52.3	278.1 978.0	362.1 362.1	667.4 42.1	15.7 46.8	269.7 948.5	374.3 374.3	647.3 40.8	14.8 44.1	261.1 918.3	386.9 386.9	626.6 39.5	13.9 41.4
10.6	45	316.1	317.2	758.6	20.1	299.7	341.2	719.4	18.1	283.2	365.5	679.8	16.2	274.8	378.0	659.4	15.3	266.0	390.8	638.5	14.4
	7.2 48	335.8	317.2 326.5	47.9 805.8	60.0 22.6	1054.2 319.2	341.2 352.0	45.4 766.2	54.1 20.5	996.1 302.4	365.5 377.9	42.9 725.8	48.5 18.4	966.3 293.7	378.0 391.4	41.6 704.9	45.7 17.4	935.6 284.7	390.8 405.2	40.3 683.3	42.9 16.4
	8.9	1180.8	326.5	50.8	67.5	1122.7	352.0	48.3	61.2	1063.6	377.9	45.8	55.1	1032.9	391.4	44.5	52.0	1001.3	405.2	43.1	49.0
	42 5.6	309.8 1089.7	326.8 326.8	743.6 46.9	19.3 57.7	293.4 1032.0	350.4 350.4	704.2 44.4	17.4 51.9	276.9 973.8	374.3 374.3	664.5 41.9	15.5 46.4	268.4 943.9	386.6 386.6	644.1 40.6	14.6 43.7	259.7 913.2	399.1 399.1	623.2 39.3	13.7 41.0
	44	320.8	332.5	769.9	20.7	304.1	356.9	729.9	18.6	287.2	381.6	689.3	16.7	278.5	394.3	668.4	15.7	269.5	407.4	646.9	14.7
5320 B 10.4	6.7 45	1128.2 326.4	332.5 335.4	48.6 783.3	61.8 21.4	1069.5 309.5	356.9 360.2	46.0 742.8	55.7 19.3	1010.1 292.4	381.6 385.3	43.5 701.8	49.8 17.3	979.5 283.6	394.3 398.2	42.2 680.6	46.9 16.3	948.0 274.5	407.4 411.5	40.8 658.9	44.0 15.3
	7.2	1147.8	335.4	49.4	63.9	1088.5	360.2	46.9	57.6	1028.4	385.3	44.3	51.6	997.4	398.2	42.9	48.6	965.5	411.5	41.6	45.6
	48 8.9	346.2 1217.5	345.5 345.5	830.8 52.4	24.0 71.6	329.1 1157.5	371.8 371.8	789.9 49.8	21.7 64.9	311.7 1096.1	398.7 398.7	748.0 47.2	19.5 58.4	302.6 1064.2	412.6 412.6	726.2 45.8	18.4 55.1	293.2 1031.3	427.0 427.0	703.8 44.4	17.4 51.9
	42	319.6	344.3	766.9	20.5	302.7	368.6	726.5	18.5	285.6	393.3	685.5	16.5	276.9	406.0	664.4	15.5	267.8	419.0	642.7	14.6
	5.6 44	1123.9 330.7	344.3 350.6	48.4 793.7	61.3 21.9	1064.7 313.6	368.6 375.6	45.8 752.5	55.2 19.8	1004.6 296.1	393.3 401.2	43.3 710.6	49.3 17.7	973.7 287.1	406.0 414.3	41.9 689.0	46.4 16.7	941.9 277.8	419.0 427.9	40.5 666.7	43.5 15.6
5330 B	6.7	1163.2	350.6	50.1	65.5	1102.8	375.6	47.5	59.1	1041.3	401.2	44.8	52.9	1009.6	414.3	43.5	49.8	976.9	427.9	42.1	46.7
10.3	45 7.2	336.4 1183.1	353.7 353.7	807.3 50.9	22.7 67.7	319.0 1122.1	379.2 379.2	765.7 48.3	20.4 61.1	301.4 1059.9	405.1 405.1	723.3 45.6	18.3 54.7	292.2 1027.8	418.5 418.5	701.4 44.2	17.2 51.5	282.8 994.6	432.3 432.3	678.7 42.8	16.2 48.4
	48	356.3	364.5	855.1	25.4	338.7	391.6	812.9	23.0	320.6	419.3	769.6	20.6	311.3	433.8	747.0	19.5	301.5	448.8	723.7	18.3
	8.9 42	1253.1 329.1	364.5 361.8	54.0 789.8	75.8 21.7	1191.3 311.8	391.6 386.9	51.3 748.3	68.7 19.6	1127.7 294.2	419.3 412.4	48.6 706.1	61.7 17.5	1094.7 285.1	433.8 425.5	47.1 684.3	58.2 16.4	1060.5 275.7	448.8 438.9	45.7 661.8	54.8 15.4
	5.6	1157.3	361.8	49.8	64.9	1096.6	386.9	47.2	58.4	1034.7	412.4	44.5	52.2	1002.8	425.5	43.2	49.1	969.8	438.9	41.8	46.0
5340 B	44 6.7	340.4 1197.3	368.5 368.5	817.0 51.5	23.2 69.3	322.8 1135.2	394.4 394.4	774.7 48.9	20.9 62.5	304.8 1071.9	420.7 420.7	731.5 46.1	18.7 55.9	295.4 1039.1	434.3 434.3	709.1 44.7	17.6 52.6	285.8 1005.1	448.3 448.3	685.9 43.3	16.5 49.3
10.1	45	346.2	371.9	830.8	24.0	328.4	398.1	788.0	21.6	310.1	424.9	744.3	19.3	300.7	438.8	721.6	18.2	290.9	453.0	698.1	17.1
	7.2 48	1217.4 366.2	371.9 383.5	52.4 878.8	71.6 26.7	1154.8 348.1	398.1 411.3	49.7 835.4	64.6 24.2	1090.7 329.4	424.9 440.0	47.0 790.6	57.8 21.8	1057.4 319.7	438.8 455.0	45.5 767.2	54.5 20.5	1023.0 309.5	453.0 470.3	44.0 742.9	51.1 19.3
	8.9	1287.8		55.4	79.9	1224.2	411.3	52.7	72.4	1158.5	440.0	49.9	65.0	1124.3	455.0	48.4	61.4	1088.7	470.3	46.9	57.6

Table 3 ends



### **CAPACITY RATINGS - 60 HZ**

Model  APCH/D EER  6005 A 9.8  6007 A 9.2	*F °C 42 5.6 44 6.7 45 7.2 48 8.9 42 5.6 44	Ccap TR kW 5.0 17.6 5.2 18.3 5.3 18.7 5.7	95°F PI <i>kW</i> 5.7 5.7	(35°C) WFR USgpm //s 12.0	WPD ftwg kPa	Ccap TR	105°F PI <i>kW</i>	WFR	WPD	Ccap	115°F PI	(46.1°C) WFR	WPD	Ccap	120°F PI	(48.9°C) WFR	WPD	Ccap	125°F PI	(51.7°C) WFR	WPD
6005 A 9.8	°C 42 5.6 44 6.7 45 7.2 48 8.9 42 5.6 44	5.0 17.6 5.2 18.3 5.3 18.7	5.7 5.7	l/s			L11/														WALD
6005 A 9.8	42 5.6 44 6.7 45 7.2 48 8.9 42 5.6	5.0 17.6 5.2 18.3 5.3 18.7	5.7 5.7			kW	kW	USgpm I/s	ftwg kPa	TR kW	kW kW	USgpm I/s	ftwg kPa	TR kW	kW kW	USgpm //s	ftwg kPa	TR kW	kW kW	USgpm I/s	ftwg kPa
9.8 6007 A	44 6.7 45 7.2 48 8.9 42 5.6 44	5.2 18.3 5.3 18.7		0.0	10.1	4.7	6.0	11.3	9.0	4.4	6.4	10.6	8.0	4.3	6.5	10.2	7.5	4.1	6.7	9.9	7.0
9.8 6007 A	45 7.2 48 8.9 42 5.6 44	5.3 18.7		0.8 12.5	30.3 10.9	16.5 4.9	6.0	0.7 11.8	27.0 9.8	15.5 4.6	6.4	0.7 11.0	23.9 8.7	15.0 4.4	6.5	0.6 10.7	22.4 8.1	14.4 4.3	6.7	0.6 10.3	20.9 7.6
6007 A	7.2 48 8.9 42 5.6 44	18.7	5.8 5.8	0.8 12.7	32.7 11.4	17.2 5.0	6.1	0.7 12.0	29.2 10.2	16.2 4.7	6.5	0.7 11.3	25.9 9.0	15.6 4.5	6.7	0.7 10.9	24.3 8.5	15.1 4.4	7.0	0.6 10.5	22.7 8.0
	8.9 42 5.6 44		5.8	0.8	34.0 13.0	17.6 5.4	6.2	0.8	30.5 11.8	16.5 5.1	6.6	0.7 12.2	27.0 10.6	16.0 4.9	6.8 7.0	0.7	25.4 9.9	15.4 4.8	7.0	0.7 11.5	23.8 9.3
	5.6 44	20.1	6.0	0.9	39.0	19.0	6.4	8.0	35.2	17.9	6.8	0.8	31.5	17.4	7.0	0.7	29.7	16.8	7.3	0.7	27.9
		7.3 25.6	8.3 8.3	17.5 1.1	10.1 30.1	6.8 23.9	8.8 8.8	16.3 1.0	8.8 26.3	6.3 22.2	9.4 9.4	15.1 1.0	7.6 22.8	6.1 21.3	9.6 9.6	14.5 0.9	7.1 21.1	5.8 20.4	9.9 9.9	13.9 0.9	6.5 19.4
	6.7	7.6 26.6	8.4 8.4	18.1 1.1	10.9 32.4	7.1 24.9	9.0 9.0	17.0 1.1	9.5 28.5	6.6 23.2	9.5 9.5	15.8 1.0	8.3 24.8	6.3 22.3	9.8 9.8	15.2 1.0	7.7 23.0	6.1 21.3	10.1 10.1	14.6 0.9	7.1 21.2
	45 7.2	7.7 27.2	8.5 8.5	18.6 1.2	11.3 33.8	7.2 25.5	9.1 9.1	17.4 1.1	10.0 29.8	6.7 23.7	9.7 9.7	16.2 1.0	8.7 26.0	6.5 22.8	10.0 10.0	15.6 1.0	8.1 24.1	6.2 21.9	10.3	14.9 0.9	7.4
	48	8.3	8.7	19.9	13.0	7.8	9.4	18.7	11.5	7.3	10.0	17.5	10.1	7.0	10.4	16.9	9.5	6.8	10.7	16.2	8.8
	8.9 42	29.2 9.3	8.7 11.2	1.3 22.4	38.9 7.7	27.5 8.7	9.4 11.9	1.2 20.9	34.5 6.8	25.7 8.0	10.0 12.5	1.1 19.3	30.3 5.9	7.7	10.4 12.9	1.1 18.5	28.3 5.5	23.8 7.4	10.7 13.2	1.0 17.7	26.2 5.1
	5.6 44	32.8 9.7	11.2 11.4	1.4 23.2	23.0 8.2	30.6 9.0	11.9 12.1	1.3 21.7	20.3 7.3	28.3 8.4	12.5 12.8	1.2 20.1	17.7 6.3	27.1 8.0	12.9 13.2	1.2 19.3	16.4 5.9	25.9 7.7	13.2 13.5	1.1 18.5	15.1 5.5
6009 A	6.7	34.0	11.4	1.5	24.5	31.7	12.1	1.4	21.7	29.4	12.8	1.3	18.9	28.2	13.2	1.2	17.6	27.0	13.5	1.2	16.3
8.6	45 7.2	9.9 34.7	11.5 11.5	23.7 1.5	8.5 25.4	9.2 32.5	12.2 12.2	22.1 1.4	7.6 22.6	8.6 30.1	13.0 13.0	20.6 1.3	6.6 19.8	8.2 29.0	13.4 13.4	19.8 1.2	6.2 18.4	7.9 27.8	13.8 13.8	18.9 1.2	5.7 17.1
	48 8.9	10.5 37.0	11.9 11.9	25.3 1.6	9.5 28.5	9.8 34.6	12.7 12.7	23.6 1.5	8.5 25.3	9.2 32.2	13.5 13.5	22.0 1.4	7.4 22.2	8.8 31.0	13.9 13.9	21.1 1.3	6.9 20.8	8.5 29.7	14.3 14.3	20.3 1.3	6.5 19.3
	42	11.0 38.7	10.6 10.6	26.4 1.7	8.0 24.0	10.4 36.5	11.4 11.4	24.9	7.2 21.6	9.8 34.3	12.2 12.2	23.4 1.5	6.5 19.4	9.4 33.2	12.6 12.6	22.6 1.4	6.1 18.2	9.1 32.0	13.0 13.0	21.8	5.7 17.1
l	5.6	11.4	10.7	27.3	8.5	10.8	11.6	1.6 25.8	7.7	10.1	12.4	24.3	6.9	9.8	12.8	23.5	6.5	9.4	13.3	22.7	6.1
6011 A 10.6	6.7 45	40.0 11.6	10.7 10.8	1.7 27.9	25.5 8.9	37.8 11.0	11.6 11.7	1.6 26.4	23.1 8.0	35.6 10.3	12.4 12.5	1.5 24.8	7.2	34.4 10.0	12.8 13.0	1.5 24.0	19.5 6.8	33.2 9.7	13.3 13.5	1.4 23.2	18.3
	7.2 48	40.8 12.3	10.8 11.1	1.8 29.6	26.5 9.9	38.6 11.7	11.7 12.0	1.7 28.0	24.0 8.9	36.3 11.0	12.5 13.0	1.6 26.4	21.5 8.0	35.2 10.6	13.0 13.4	1.5 25.5	20.3 7.6	34.0 10.3	13.5 13.9	1.5 24.7	19.0 7.1
	8.9	43.4	11.1	1.9	29.5	41.1	12.0	1.8	26.7	38.7	13.0	1.7	24.0	37.4	13.4	1.6	22.6	36.2	13.9	1.6	21.3
	42 5.6	14.9 52.3	14.6 14.6	35.7 2.3	8.4 25.2	14.1 49.4	15.7 15.7	33.7 2.1	7.6 22.8	13.2 46.5	16.9 16.9	31.7 2.0	6.9 20.5	12.8 45.0	17.5 17.5	30.7 1.9	6.5 19.4	12.4 43.5	18.1 18.1	29.7 1.9	6.1 18.2
6014 A	44 6.7	15.4 54.0	14.8 14.8	36.9 2.3	8.9 26.6	14.5 51.1	16.0 16.0	34.8 2.2	8.1 24.1	13.7 48.1	17.2 17.2	32.8 2.1	7.3 21.8	13.2 46.6	17.8 17.8	31.8 2.0	6.9 20.6	12.8 45.1	18.4 18.4	30.8 1.9	6.5 19.4
10.8	45	15.7	15.0	37.6	9.3	14.8	16.2	35.6	8.4	14.0 49.2	17.4	33.6	7.6 22.7	13.6	18.0	32.5	7.2	13.1	18.7	31.5	6.8
ŀ	7.2 48	55.2 16.9	15.0 15.5	40.5	27.7 10.7	52.2 16.0	16.2 16.8	38.5	25.1 9.6	15.1	17.4 18.1	2.1 36.4	8.7	47.7 14.7	18.0 18.8	2.1 35.3	21.5 8.3	46.2 14.3	18.7 19.6	2.0 34.2	7.8
	8.9 42	59.4 20.8	15.5 20.6	2.6 49.9	31.9 17.9	56.4 19.6	16.8 22.1	2.4 47.1	28.8 15.3	53.3 18.5	18.1 23.6	2.3 44.3	26.0 13.0	51.7 17.9	18.8 24.4	2.2 42.9	24.7 12.1	50.1 17.3	19.6 25.2	2.2 41.5	23.4 11.2
	5.6 44	73.1 21.3	20.6 20.9	3.1 51.2	53.6 19.4	69.1 20.2	22.1 22.4	3.0 48.4	45.6 16.4	65.0 19.0	23.6 23.9	2.8 45.6	38.9 14.0	62.9 18.4	24.4 24.7	2.7 44.2	36.1 13.0	60.8 17.9	25.2 25.6	2.6 42.9	33.6 12.0
6020 A	6.7	75.0	20.9	3.2	57.9	71.0	22.4	3.1	49.1	66.9	23.9	2.9	41.8	64.8	24.7	2.8	38.7	62.8	25.6	2.7	36.0
10.1	45 7.2	21.6 76.1	21.0 21.0	51.9 3.3	20.3 60.6	20.5 72.1	22.6 22.6	49.2 3.1	17.2 51.4	19.3 68.1	24.2 24.2	46.4 2.9	14.6 43.8	18.8 66.0	25.0 25.0	45.1 2.8	13.6 40.5	18.2 64.0	25.8 25.8	43.7 2.8	12.6 37.6
	48 8.9	22.9 80.6	21.6 21.6	55.0 3.5	24.5 73.4	21.8 76.7	23.3 23.3	52.3 3.3	20.8 62.2	20.7 72.7	25.0 25.0	49.6 3.1	17.6 52.7	20.1 70.7	25.9 25.9	48.2 3.0	16.3 48.6	19.5 68.7	26.8 26.8	46.9 3.0	15.0 44.9
	42 5.6	21.6 75.8	21.0 21.0	51.7 3.3	20.0 59.9	20.4 71.6	22.5 22.5	48.8 3.1	16.8 50.4	19.1 67.3	24.1 24.1	45.9 2.9	14.2 42.6	18.5 65.1	24.9 24.9	44.4 2.8	13.1 39.2	17.9 62.8	25.8 25.8	42.9 2.7	12.0 36.0
	44	22.1	21.2	53.1	21.8	20.9	22.8	50.2	18.3	19.7	24.5	47.3	15.4	19.1	25.3	45.7	14.1	18.4	26.2	44.2	12.9
6022 A 10.4	6.7 45	77.8 22.5	21.2 21.4	3.3 53.9	65.1 22.9	73.6 21.3	22.8 23.0	3.2 51.0	54.6 19.2	69.3 20.0	24.5 24.7	3.0 48.1	45.9 16.1	67.0 19.4	25.3 25.6	2.9 46.6	42.1 14.7	64.7 18.7	26.2 26.5	2.8 45.0	38.6 13.5
	7.2 48	79.0 23.8	21.4 21.9	3.4 57.2	68.4 28.1	74.8 22.6	23.0 23.7	3.2 54.3	57.3 23.5	70.5 21.4	24.7 25.5	3.0 51.3	48.1 19.5	68.2 20.7	25.6 26.5	2.9 49.7	44.1 17.8	65.9 20.1	26.5 27.5	2.8 48.2	40.3 16.2
	8.9 42	83.8 26.1	21.9 24.6	3.6 62.7	84.1 11.7	79.6 24.7	23.7 26.5	3.4 59.2	70.2 10.4	75.2 23.2	25.5 28.4	3.2 55.7	58.3 9.2	72.9 22.4	26.5 29.4	3.1 53.9	53.1 8.6	70.6 21.7	27.5 30.4	3.0 52.0	48.4 8.1
	5.6	91.9	24.6	4.0	34.9	86.8	26.5	3.7	31.1	81.6	28.4	3.5	27.6	78.9	29.4	3.4	25.8	76.2	30.4	3.3	24.1
6025 A	44 6.7	27.1 95.1	24.9 24.9	64.9 4.1	12.5 37.3	25.6 89.9	26.9 26.9	61.4 3.9	11.2 33.4	24.1 84.7	28.9 28.9	57.8 3.6	9.9 29.7	23.3 82.0	30.0 30.0	56.0 3.5	9.3 27.9	22.5 79.3	31.0 31.0	54.1 3.4	8.7 26.1
11.1	45 7.2	27.6 97.0	25.1 25.1	66.2 4.2	13.0 38.7	26.1 91.8	27.2 27.2	62.7 4.0	11.6 34.8	24.6 86.6	29.2 29.2	59.1 3.7	10.4 31.0	23.9 83.9	30.3 30.3	57.2 3.6	9.7 29.1	23.1 81.2	31.4 31.4	55.4 3.5	9.1 27.3
	48	29.1	26.0	89.0	14.8	27.9	28.4	67.5	12.8	26.4	30.4	63.9	12.5	26.3	31.2	61.4	11.2	25.8	32.9	60.2	10.6
	8.9 42	102.3 28.8	26.0 28.7	5.6 69.1	14.1	98.1 27.2	28.4 31.0	4.3 65.3	38.3 12.6	92.8 25.6	30.4	4.0 61.5	37.4 11.2	92.5 24.8	31.2 34.3	3.9 59.5	33.4 10.5	90.7 24.0	32.9 35.5	3.8 57.6	9.9
	5.6 44	101.2 29.7	28.7 29.2	4.4 71.2	42.1 14.9	95.7 28.1	31.0 31.5	4.1 67.4	37.7 13.4	90.1 26.5	33.2 33.8	3.9 63.6	33.5 12.0	87.3 25.7	34.3 35.0	3.8 61.6	31.5 11.3	84.4 24.9	35.5 36.2	3.6 59.7	29.5 10.6
6028 A	6.7 45	104.3 30.1	29.2 29.4	4.5 72.4	44.7	98.8 28.6	31.5 31.7	4.3	40.2 13.9	93.2 27.0	33.8 34.1	4.0 64.8	35.8	90.3	35.0	3.9 62.9	33.7	87.4 25.4	36.2	3.8	31.6 11.0
10.6	7.2	106.0	29.4	4.6	15.4 46.1	100.5	31.7	4.3	41.6	95.0	34.1	4.1	12.4 37.2	92.1	35.3 35.3	4.0	11.7 35.0	89.3	36.6 36.6	3.8	32.9
	48 8.9	31.0 108.9	29.7 29.7	76.6 4.8	17.2 51.4	30.4 106.9	32.0 32.0	72.8 4.6	15.7 46.6	28.8 101.3	35.0 35.0	69.0 4.4	13.6 40.7	28.0 98.4	35.9 35.9	67.7 4.3	12.9 38.6	27.2 95.6	38.1 38.1	65.1 4.1	12.5 37.4
	42 5.6	30.3 106.6	31.9 31.9	72.8 4.6	15.6 46.6	28.6 100.5	34.1 34.1	68.6 4.3	13.9 41.6	26.8 94.4	36.4 36.4	64.4 4.1	12.3 36.7	25.9 91.3	37.5 37.5	62.3 3.9	11.5 34.4	25.1 88.1	38.7 38.7	60.1 3.8	10.7 32.1
(020 A	44	31.2	32.4	74.8	16.5	29.5	34.7	70.7	14.8	27.7	37.0	66.5	13.1	26.8	38.3	64.4	12.3	25.9	39.5	62.3	11.5
6030 A 10.2	6.7 45	109.7 31.6	32.4 32.6	4.7 76.0	49.3 17.0	103.6 30.0	34.7 35.0	4.5 71.9	44.1 15.2	97.5 28.2	37.0 37.4	4.2 67.7	39.1 13.6	94.4 27.4	38.3 38.7	4.1 65.6	36.7 12.8	91.2 26.5	39.5 40.0	3.9 63.5	34.4 12.0
	7.2 48	111.3 32.5	32.6 32.9	4.8 80.5	50.7 18.8	105.3 31.8	35.0 35.9	4.5 76.1	45.5 16.1	99.3 30.0	37.4 38.9	4.3 71.9	40.5 15.4	96.2 29.8	38.7 39.9	4.1 69.8	38.1 14.6	93.1 29.2	40.0	4.0 67.4	35.7 13.8
	8.9	114.3	32.9	5.1	56.2	11.8	35.9	4.8	48.1	105.5	38.9	4.5	46.0	104.7	39.9	4.4	43.6	102.7	41.8	4.3	41.2
	42 5.6	35.9 126.3	38.7 38.7	86.2 5.4	8.8 26.4	33.7 118.5	41.2 41.2	80.9 5.1	7.7 23.1	31.5 110.6	43.6 43.6	75.5 4.8	6.7 20.1	30.3 106.6	44.9 44.9	72.8 4.6	6.2 18.6	29.2 102.6	46.3 46.3	70.0 4.4	5.7 17.2
6035 A	44 6.7	37.1 130.5	39.3 39.3	89.0 5.6	9.4 28.2	34.8 122.5	41.9 41.9	83.6 5.3	8.3 24.8	32.6 114.6	44.5 44.5	78.2 4.9	7.2 21.6	31.4 110.5	45.8 45.8	75.4 4.8	6.7 20.0	30.3 106.4	47.3 47.3	72.6 4.6	6.2 18.5
9.7	45 7.2	37.8 132.9	39.7 39.7	90.7 5.7	9.8 29.2	35.5 124.9	42.3 42.3	85.2	8.6 25.8	33.2 116.9	45.0 45.0	79.8 5.0	7.5 22.5	32.1 112.8	46.4	77.0 4.9	7.0 20.9	30.9 108.7	47.8	74.2	6.5
	48 8.9	40.8 143.6	39.7 41.4 41.4	98.0 6.2	11.4 34.0	38.6 135.6	42.3 44.3 44.3	5.4 92.5 5.8	10.2 30.4	36.2 127.4	45.0 47.2 47.2	86.9 5.5	9.0 26.9	35.0 123.2	46.4 48.7 48.7	84.1 5.3	8.4 25.1	33.8 118.9	47.8 50.4 50.4	4.7 81.1 5.1	7.8 23.3

Table 4



### **CAPACITY RATINGS - 60 HZ**

Color   Fig.   Wife   Wife   Color   Fig.   Wife										Cond	enser E	ntering	Temper	rature °	F (°C)							
April   Property   Property   April	Model	LCWT	Ccan			WPD	Ccan			WPD	Ccan			WPD	Ccan			WPD	Ccan			WPD
409.4 A 62 28.1 Bold 90, 34.2 30.8 Bold 90, 32. 30.8 Bold 92. Bold			TR	kW	USgpm	ftwg	TR	kW	USgpm	ftwg	TR	kW	USgpm	ftwg	TR	kW	USgpm	ftwg	TR	kW	USgpm	ftwg
46 27.4 31.5 PV 78 28 35.3 37.6 R65 85 33.3 R00 PV 79 76 32.2 R64 R74 71 31.3 32 G25 749 76 86 4 77 7135 34.0 G25 749 76 32.2 R64 R74 71 31.3 32 G25 749 76 86 4 77 7135 34.0 G25 749 76 32.2 R64 R74 71 31.3 32 G25 749 76 36 6 77 74 75 74 74 74 74 74 74 74 74 74 74 74 74 74	EER	42	36.2	34.1	86.8	9.0	34.2	36.8		8.0	32.1	39.4	77.2	7.0	31.1	40.7	74.7	6.6	30.1	42.1		6.1
																						18.3
172   138   346   538   297   1971   377   358   266   1974   1974   378   578   295   1975   418   500   290   1720   432   438   438   295		6.7	131.4	34.6	5.7	28.6	124.3	37.4	5.4	25.6	117.0	40.0	5.0	22.6	113.4	41.4	4.9	21.1	109.8	42.8	4.7	19.7
89   144   341   40   42   345   1375   391   59   392   1300   42   56   260   1002   435   54   54   52   1224   462   53   244	10.9	7.2	133.9	34.9	5.8	29.7	126.7	37.7	5.5	26.6	119.4	40.4	5.1	23.5	115.7	41.8	5.0	22.0	112.0	43.2	4.8	20.6
42 41, 41, 41, 86, 115, 388, 42, 93, 90, 3 84, 471, 874, 874, 91, 853, 480, 816, 85, 841, 90, 818, 77, 639, 44, 41, 41, 41, 41, 41, 41, 41, 41, 41																						8.3 24.8
609 A			41.1	41.3	98.6									9.1	35.3			8.5				7.9
10.	(020 A	44	42.4	41.9	101.7	12.2	40.1	44.9	96.1	11.0	37.7	47.9	90.4	9.7	36.5	49.5	87.6	9.1	35.3	51.1	84.8	8.5
48   63   12   11   12   43   44   47   10   57   76   47   47   47   47   47   47   4		45	43.1	42.3	103.5	12.6	40.8	45.3	97.9	11.3	38.4	48.4	92.2	10.1	37.2	50.0	89.3	9.5	36.0	51.7	86.5	8.9
89   1620   1627   70   927   1547   471   82   390   162   805   63   35   720   572   64   33   3178   541   59   311																						26.6 10.5
Sec.   16.59   23.8   2.3   23.0   188.0   47.0   6.9   23.5   17.9   9.93   6.6   7.79   17.58   1.9   54   20.7   17.5   23.8   5.7   24.8		8.9	163.0	43.7	7.0	42.7		47.1	6.7	39.0	146.2	50.5	6.3		142.0	52.2	6.1		137.8	54.1	5.9	31.4
		5.6	145.9	43.8	6.3	35.0	138.0	47.0	5.9	31.5	129.9	50.3	5.6	27.9	125.8	51.9	5.4	26.2	121.7	53.6	5.2	24.5
12	6040 A	6.7	150.8	44.5	6.5	37.2	142.7	47.8	6.1	33.6	134.5	51.1	5.8	29.9	130.3	52.9	5.6	28.1	126.0	54.6	5.4	26.3
68   47.0   40.4   11.29   14.0   44.7   500   107.2   13.4   42.2   53.7   101.4   12.1   41.0   55.7   98.4   11.5   39.8   57.7   95.4   10.0	10.1																					9.2 27.4
42   47.0   519   113.0   15.1   44.4   55.4   106.6   13.7   41.7   59.0   100.2   12.3   40.4   60.9   60.9   60.9   11.6   38.9   62.8   59.2   20.8						14.6																10.8
606A A		42	47.0	51.9	113.0	15.1	44.4	55.4	106.6	13.7	41.7	59.0	100.2	12.3	40.4	60.9	96.9	11.6	38.9	62.8	93.5	10.8
9.8 45 493 532 183 63 460, 568 1118 149 438 607 1052 134 424 627 1019 127 409 647 981 118 149 481 807 1052 134 147 627 60 41 1492 677 66 47 101 1492 677 67 681 118 149 149 149 149 149 149 149 149 149 149			48.5	52.7	116.4	15.9	45.8	56.4	110.0	14.5	43.0	60.1	103.4	13.0	41.6	61.9	99.7	12.2	40.2	64.0		11.5
17.2   17.4   13.2   7.5   46.6   16.37   56.8   7.1   44.5   16.4   60.7   60.6   40.1   149.2   62.7   6.4   37.9   143.7   64.7   62.7   35.8   63.9   184.7   55.1   7.5   7.8   84.8   59.1   17.5   7.8   49.4   16.4   63.2   7.1   45.2   16.0   65.5   69.   43.0   184.1   67.5   60.6   40.1   40.0   42.2   43.1   40.0   42.2   43.1   40.0   42.2   43.1   40.0   42.2   43.1   40.0   42.2   43.1   40.0   42.2   43.1   40.0   42.2   43.1   40.0   42.2   43.1   40.0   42.2   43.1   40.0   42.2   43.1   40.0   42.2   43.1   40.0   42.2   43.1   40.0   42.2   43.1   43.1   40.0   42.2   43.1   43.1   40.0   42.2   43.1   43.1   40.0   42.2   43.1   43.1   40.0   42.2   43.1   43.																						34.3 11.8
42 147 551 79 532 1751 591 77 68 9 0 1480 615 62 71 452 1000 655 69 430 1541 675 66 44 100 616 61 61 100 120 407 636 678 113 33 40 65 64 100 616 100 616 61 61 30 60 655 69 78 113 33 40 65 60 60 31 60 61 61 61 61 61 61 61 61 61 61 61 61 61		7.2	173.4	53.2	7.5	48.6	163.7	56.8	7.1	44.5	154.1	60.7	6.6	40.1	149.2	62.7	6.4	37.9	143.7	64.7	6.2	35.4
5.6   16.60   54.2   71   440   1571   579   6.8   400   1480   616   6.4   36.0   1433   63.6   6.2   33.8   1383   65.5   6.0   91.6		8.9	184.7	55.1	7.9	53.2	175.1	59.1	7.5	49.4	165.4	63.2	7.1	45.2	160.6	65.5	6.9	43.0	154.1	67.5	6.6	40.2
95. 46. 67. 1713 562 74. 46.3 1622 99.0 70. 423 1528 628 66. 281 1480 648 64. 359 1429 668 62. 233 148 148 148 148 148 148 148 148 148 148		5.6	166.0	54.2	7.1	44.0	157.1	57.9	6.8	40.0	148.0	61.6	6.4	36.0	143.3	63.6	6.2	33.8	138.3	65.5	6.0	31.6
9.5	6050 A																					11.3 33.7
84   852   9.78   126   175   50.3   62.0   120.6   16.3   47.5   66.3   114.1   14.9   46.1   68.5   110.6   14.1   44.6   70.8   107.1   13.5   14.5   1		45	49.5	55.7	118.9	15.9	46.9	59.5	112.6	14.6	44.2	63.5	106.2	13.2	42.8	65.5	102.8	12.4	41.4	67.6	99.3	11.7
42   582   642   1397   156   549   685   1319   139   516   730   1238   123   499   775   753   1198   115   482   778   1157   100   100   100   100   100   148   130   148   148   130   148   148   130   148   148   130   148		48	52.9	57.8	126.9	17.5	50.3	62.0	120.6	16.3	47.5	66.3	114.1	14.9	46.1	68.5	110.6	14.1	44.6	70.8	107.1	13.4
600 A   67   2110   652   91   494   993   697   86   442   815   817   818   817   818   817   818   817   818   817   818   817   818   817   818   817   818   817   818   817   818			58.2					68.5							49.9					77.8		10.7
9.7.   6.60   6.7   2110   6.52   9.1   49.4   19.3   6.7   8.6   44.2   18.75   74.4   8.1   39.1   18.14   76.8   7.8   36.7   17.5   79.4   7.5   34.5   7.5																						32.1 11.5
To be compared to the compar		6.7	211.0	65.2	9.1	49.4	199.3	69.7	8.6	44.2	187.5	74.4	8.1	39.1	181.4	76.8	7.8	36.7	175.4	79.4	7.5	34.3
8.9   223,9   67.3   9.6   55.7   211.7   72.1   9.1   49.8   199.4   77.1   8.6   44.2   192.1   79.7   8.3   41.5   186.7   82.5   82.0   38.6   48.6	7.1	7.2	214.7	65.8	9.2	51.2	203.1	70.4	8.7	45.8	191.2	75.2	8.2	40.7	185.1	77.8	8.0	38.2	178.9	80.4	7.7	35.7
6075   6   252   77.5   10   9   29   3   237.0   82.5   10.2   25.9   221.3   87.4   9.5   22.7   213.4   90.1   9.2   21.1   205.3   92.8   8.8   19.6   87.5   97.5   67.5   205.5   88.8   11.2   31.2   24.9   83.9   10.5   27.6   229.2   89.1   156.6   89.5   227.2   213.4   90.1   9.5   227.2   213.1   94.8   92.2   211.4   97.5   227.2   205.6   79.6   181.3   10.8   71.1   84.9   170.7   96.6   66.6   90.3   160.0   85.5   64.4   93.1   54.5   7.9   62.1   96.1   40.0   7.4   7.2   265.6   79.6   11.4   32.4   250.1   84.9   10.8   28.8   234.4   90.3   10.1   25.4   226.4   93.1   97.7   23.7   218.3   96.1   94.0   7.4   7.7   2.8   7.9   62.1   96.1   40.0   7.4   7.9   68.8   88.2   88.1   11.0   71.8   94.1   172.5   97.2   87.5   79.2   67.1   10.0 5   10.1   86.8   89.2   88.1   10.1   71.8   94.1   172.5   97.2   10.5   77.2   255.5   235.9   10.5   10.2   255.5   235.9   20.5   224.5   20.1   20.5   224.5   20.1   20.5   23.5   20.5   23.5   20.5   23.5   20.5   23.5   20.5   23.5   20.5   23.5   20.5   23.5   2		8.9	223.9	67.3	9.6	55.7		72.1	9.1		199.4		8.6	44.2	193.1		8.3	41.5		82.5	8.0	38.8
6075 A   67   2605   788   112   312   2449   83.9   167.1   92   65.2   89.1   156.4   81.1   62.9   91.9   150.9   7.6   60.6   94.8   145.4   7.1   7.7   7.7   7.6   7.7   7.6   7.6   7.7   7.6   7.6   7.6   7.6   7.6   7.6   7.7   7.5   7.6   7.7   7.6   7.6   7.6   7.6   7.6   7.6   7.6   7.6   7.6   7.6   7.7   7.6																						6.6 19.6
9.7	6075 A	44	74.1	78.8	177.8	10.4	69.6	83.9	167.1	9.2	65.2	89.1	156.4	8.1	62.9	91.9	150.9	7.6	60.6	94.8	145.4	7.1
8 8 80 7 825 1938 122 369 2684 882 116 330 2524 941 109 293 2443 972 105 275 2359 1005 102 255   8 2840 8825 122 369 2684 882 116 330 2524 941 109 293 2443 972 105 275 2359 1005 102 255   5.6 2725 826 1859 114 730 883 111 303 2408 941 104 268 2328 970 100 250 2245 1001 97 233   442 775 826 1859 114 730 883 111 303 2408 941 104 268 2328 970 100 250 2245 1001 97 233   444 799 83.9 191.7 121 75.4 89.8 180.9 10.8 70.8 95.7 170.0 9.6 66.5 98.8 164.4 90 66.2 102.1 158.8 8.4   9.9 44 81.4 84.6 195.3 12.5 76.9 90.7 184.5 112 72.3 96.8 173.6 100.0 100.0 168.1 9.4 67.7 103.3 162.5 8.8   8.6 86.8 87.4 208.4 142 82.3 93.9 197.6 12.8 77.7 100.5 186.5 11.4 75.4 104.0 180.9 10.8 70.8 107.7 175.1 10.1 8.9 14.8 86.8 87.4 208.4 142 82.3 93.9 197.6 12.8 77.7 100.5 186.5 11.4 75.4 104.0 180.9 10.8 730.1 10.7 175.1 10.1 8.9 14.8 86.8 87.8 197.8 19.0 19.0 19.0 19.0 19.0 19.0 19.0 19.0		45	75.5	79.6	181.3	10.8	71.1	84.9	170.7	9.6	66.6	90.3	160.0	8.5	64.4	93.1	154.5	7.9	62.1	96.1	149.0	7.4
42 77.5 82.6 185.9 11.4 73.0 88.3 175.2 10.1 68.5 94.1 164.3 90. 66.2 97.0 10.0 25.0 224.5 100.1 153.2 7.8 6080 A 67.7 280.9 83.9 191.7 12.1 75.4 89.8 180.9 10.8 70.8 95.7 170.0 96. 68.5 98.8 164.4 9.0 66.2 102.1 158.8 8.4 6.7 280.9 83.9 191.7 12.1 75.4 89.8 180.9 10.8 70.8 95.7 170.0 96. 68.5 98.8 164.4 9.0 66.2 102.1 158.8 8.4 6.7 280.9 83.9 12.1 36.1 265.1 89.8 11.4 32.2 249.1 95.7 10.7 28.6 241.0 98.8 10.4 26.8 232.7 102.1 10.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0 2			80.7		193.8			88.2		11.0		94.1		9.8	69.5			9.2		100.5		8.6
6.6         27.2.5         8.2.6         11.7         34.0         256.7         88.3         11.1         30.3         240.8         94.1         10.4         26.8         232.8         97.0         10.0         25.0         224.5         100.1         9.7         23.3           408.0         A.4         79.9         83.9         11.7         12.1         154.4         89.8         11.4         32.2         249.1         95.7         10.7         28.6         241.0         98.8         10.4         26.8         232.7         102.1         10.0         25.6           45         81.4         84.6         195.3         12.5         76.9         90.7         11.6         33.5         25.0         49.8         11.0         28.8         10.0         70.0         10.0         10.6         28.0         23.1         10.3         10.2         28.2           48         86.8         87.4         13.1         42.2         82.9         93.8         11.4         22.2         82.4         11.1         43.2         25.0         10.0         10.0         28.2         25.0         10.0         10.0         10.0         10.0         10.0         10.0         10.0																						25.7 7.8
6080 A         6.7         280.9         83.9         12.1         36.1         265.1         89.8         11.4         32.2         249.1         95.7         10.7         28.6         241.0         98.8         10.4         26.8         232.7         102.1         100.0         25.6           7.2         286.2         284.6         195.3         12.5         76.9         90.7         11.6         33.5         254.4         96.8         11.0         29.8         246.3         100.0         10.6         28.0         238.1         103.3         162.5         8.8           8.9         305.4         8.7         208.4         14.2         82.3         39.9         19.7         11.6         33.5         254.4         96.8         11.0         29.8         246.3         100.0         10.6         28.0         238.1         103.3         102.2         26.0         14.1         34.2         265.5         104.0         10.0         10.0         11.0         29.8         246.3         100.0         11.4         31.2         27.3         10.0         11.2         31.0         20.1         33.2         265.0         10.0         11.4         32.2         26.0         10.0         1		5.6	272.5	82.6	11.7	34.0	256.7	88.3	11.1	30.3	240.8	94.1	10.4	26.8	232.8	97.0	10.0	25.0	224.5	100.1	9.7	23.3
7.2 286.2 84.6 12.3 37.4 270.4 90.7 11.6 33.5 254.4 96.8 11.0 29.8 246.3 100.0 10.6 28.0 238.1 103.3 10.2 26.2 48.8 87.4 208.4 14.2 82.3 93.9 197.6 12.5 38.3 273.3 100.5 18.6 11.4 75.4 104.0 180.9 10.8 73.0 107.7 71.0 30.3 10.5 18.6 11.4 75.4 104.0 180.9 10.8 73.0 107.7 11.0 30.3 10.5 11.8 84.2 265.0 104.0 11.4 32.2 256.6 107.7 11.0 30.3 10.5 11.8 10.5 11.5 11.5 11.5 11.5 11.5 11.5 11.5		6.7	280.9	83.9	12.1	36.1	265.1	89.8	11.4	32.2	249.1	95.7	10.7	28.6	241.0	98.8	10.4	26.8	232.7	102.1	10.0	25.0
8.9         305.4         87.4         13.1         42.5         289.5         93.9         12.5         38.3         273.3         100.5         11.8         34.2         265.0         104.0         11.4         32.2         25.6.6         107.7         11.0         30.3           5.6         291.7         87.8         19.6         38.8         275.9         94.2         118.3         29.8         100.7         11.2         31.0         251.7         104.0         10.8         29.2         243.4         107.5         10.5         22.3           6085 A         48         89.0         205.1         13.8         80.9         95.6         194.2         12.4         76.3         102.3         11.2         31.0         265.8         177.5         10.4         71.6         109.4         71.8         8.9           40.7         30.0         89.0         20.5         13.8         80.9         95.6         12.3         37.0         268.4         10.2         11.5         75.5         106.9         181.3         10.8         73.1         110.6         175.6         102.2           40.0         8.9         7.9         2.3         4.0         10.3         4.1	9.9	7.2	286.2	84.6	12.3	37.4	270.4	90.7	11.6	33.5	254.4	96.8	11.0	29.8	246.3	100.0	10.6	28.0	238.1	103.3	10.2	26.2
42   82.9   87.8   199.1   13.0   78.4   94.2   188.3   11.7   73.9   100.7   177.3   10.4   71.6   104.0   171.7   9.8   69.2   107.5   166.1   9.1																						10.1 30.3
6085 A 6.7 300.5 89.0 12.9 41.1 28.5 96.5 197.9 12.8 77.9 103.4 11.6 33.0 260.2 105.8 17.5 10.4 71.6 109.4 171.8 9.8 10.0 45 87.0 89.7 208.7 14.2 82.5 96.5 197.9 12.8 77.9 103.4 186.9 11.5 75.5 106.9 181.3 10.8 73.1 110.6 117.5 102.9 181.3 10.8 73.1 110.6 117.5 6 102.9 181.3 110.6 117.5 6 102.9 181.3 110.6 117.5 6 102.9 181.3 110.6 117.5 6 102.9 181.3 110.6 117.5 6 102.9 181.3 110.6 117.5 6 102.9 181.3 110.6 117.5 6 102.9 181.3 114.9 182.5 117.1 112.1 182.9 112.1 182.9 112.9 112.3 112.9 112.3 112.3 112.1 112.0 112.3 112.1 112.0 112.3 112.1 112.0 112.3 112.1 112.0 112.3 112.1 112.0 112.0 112.3 112.0 112.0 112.3 112.1 112.0 112.0 112.1 112.0 112.1 112.0 112.0 112.1 112.0 112.0 112.1 112.0 112.0 112.1 112.0 112.0 112.1 112.0 112.0 112.1 112.0		42	82.9												71.6				69.2			9.1 27.3
10.0	(00F A	44	85.4	89.0	205.1	13.8	80.9	95.6	194.2	12.4	76.3	102.3	183.2	11.1	74.0	105.8	177.5	10.4	71.6	109.4	171.8	9.8
48   92.7   92.3   222.4   16.1   88.1   99.6   211.4   14.6   83.4   107.0   200.2   13.1   81.0   110.9   194.5   12.4   78.6   114.9   188.7   11.7		45	87.0	89.7	208.7	14.2	82.5	96.5	197.9	12.8	77.9	103.4	186.9	11.5	75.5	106.9	181.3	10.8	73.1	110.6	175.6	10.2
8.9 325.9 92.3 14.0 48.2 309.8 99.6 13.3 43.7 293.4 107.0 12.6 39.3 285.0 110.9 12.3 37.1 276.5 114.9 11.9 35.6 4 88.8 98.2 213.0 14.8 84.0 105.1 201.5 13.3 79.1 112.1 189.9 11.9 76.6 115.7 183.9 11.1 74.0 119.4 177.7 10.4 177.7 10.4 177.7 10.4 177.7 10.4 177.7 10.4 177.7 10.4 177.7 10.4 177.7 10.4 177.7 10.4 177.7 10.4 177.7 10.4 177.7 10.4 177.7 10.4 177.7 10.4 177.7 10.4 177.7 17.0 17.0 17.0 17.0 17.0 17.0 17.																						30.4 11.7
6090 A         44         312.1         98.2         13.4         44.3         295.3         105.1         12.7         39.8         278.2         112.1         12.0         35.4         269.4         115.7         11.6         33.3         260.4         119.4         11.2         31.2           6090 A         9.7         99.6         219.0         15.6         86.4         106.7         207.5         14.1         81.6         113.9         12.3         37.6         278.0         117.7         189.7         11.6         33.3         260.4         119.4         11.2         31.2         31.1         42.1         28.8         113.9         12.3         37.6         278.0         117.7         12.0         35.4         26.8         113.9         12.3         37.6         278.0         117.7         12.0         35.4         26.8         113.9         12.2         37.6         278.0         117.7         12.0         35.4         26.8         113.9         12.3         37.6         278.0         117.7         12.0         35.4         26.8         113.9         12.3         37.6         278.0         117.7         120.0         35.4         26.8         113.0         11.0         120.2				92.3	14.0			99.6	13.3		293.4	107.0	12.6								11.9	35.0
699 A         6.7         320.9         9.6         13.8         46.7         304.0         106.7         13.1         42.1         286.8         113.9         12.3         37.6         278.0         117.7         12.0         35.4         268.9         121.5         11.6         33.1           9.7         45         92.7         100.4         222.6         16.1         88.0         107.7         211.1         14.6         83.1         115.1         199.4         13.0         80.6         119.0         193.3         12.2         36.7         274.2         122.9         187.1         11.8         34.4         29.2         115.1         12.6         39.0         283.3         119.0         193.3         12.2         36.7         274.2         122.9         187.1         11.8         34.4         12.9         28.3         119.0         12.2         36.7         274.2         122.9         187.1         11.8         34.8         19.8         42.4         43.8         13.1         43.2         29.2         115.1         12.6         89.3         119.0         12.2         36.6         14.0         83.4         127.9         200.2         13.8         49.2         43.1         13.3		5.6	312.1	98.2	13.4	44.3	295.3	105.1	12.7	39.8	278.2	112.1	12.0	35.4	269.4	115.7	11.6	33.3	260.4	119.4	11.2	31.2
7.2         326.1         100.4         14.0         48.2         309.3         107.7         13.3         43.5         292.2         115.1         12.6         39.0         283.3         119.0         12.2         36.7         274.2         122.9         11.8         34.4           8.9         346.1         103.5         236.2         18.1         326.2         119.3         113.3         14.8         86.1         123.5         206.6         14.0         83.4         127.9         200.2         13.1           8.9         346.1         103.5         14.9         54.1         329.2         111.3         142.4         49.1         311.8         119.3         13.4         44.2         302.8         123.5         206.6         14.0         83.4         127.9         200.2         13.1         12.6         39.0         283.3         119.0         12.2         36.6         14.0         83.4         127.9         30.1         20.6         30.8         13.3         81.4         123.5         206.6         14.0         212.6         39.3         11.1         18.3         11.7           40         94.3         108.6         14.3         49.8         313.9         116.0		6.7	320.9	99.6	13.8		304.0	106.7	13.1	42.1		113.9	12.3	37.6	278.0	117.7	12.0	35.4	268.9	121.5	11.6	33.1
48 98.4 103.5 236.2 18.1 93.6 111.3 224.7 16.4 88.6 119.3 212.8 14.8 86.1 123.5 206.6 14.0 83.4 127.9 200.2 13.1 8.9 346.1 103.5 14.9 54.1 329.2 111.3 14.2 49.1 311.8 119.3 13.4 44.2 302.8 123.5 13.0 41.7 293.4 127.9 12.6 39.3 12.6 14.9 12.5 78.4 131.1 188.3 11.7 12.6 14.9 12.5 78.4 131.1 18.8 31.7 12.7 39.9 286.3 127.3 12.3 37.4 127.9 12.6 13.1 11.9 34.8 12.7 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8	9.7																					11.5 34.4
42 94.3 108.6 226.3 16.7 89.2 116.0 214.2 15.0 84.1 123.4 201.8 13.3 81.4 127.3 195.4 12.5 78.4 131.1 188.3 11.7    5.6 331.6 108.6 14.3 49.8 313.9 116.0 13.5 44.8 295.7 123.4 12.7 39.9 286.3 127.3 12.3 37.4 275.9 131.1 11.9 34.8    6095 A 44 96.8 110.2 232.3 17.5 91.7 117.8 220.1 15.8 86.5 125.6 207.7 14.1 83.8 129.6 201.2 13.3 80.7 133.5 179.3 712.3    6095 A 98.2 111.1 235.7 18.0 93.2 118.9 223.7 16.3 88.0 126.8 211.2 14.6 85.3 131.0 204.8 13.7 82.1 134.9 197.0 12.7    7.2 345.4 111.1 14.9 53.9 327.8 118.9 14.1 48.7 39.6 126.8 211.2 14.6 85.3 131.0 204.8 13.7 82.1 134.9 197.0 12.7    82 133.9 14.6 249.3 20.1 98.8 123.0 237.2 18.2 93.6 131.6 224.6 16.4 90.8 136.1 218.0 15.5 87.1 140.1 299.0 14.5 88.1		48	98.4	103.5	236.2	18.1	93.6	111.3	224.7	16.4	88.6	119.3	212.8	14.8	86.1	123.5	206.6	14.0	83.4	127.9	200.2	13.1
6095 A         44         96.8         110.2         232.3         17.5         91.7         117.8         220.1         15.8         86.5         125.6         207.7         14.1         83.8         129.6         201.2         13.3         80.7         133.5         193.7         12.3           9.4         46.7         340.3         110.2         14.7         52.4         322.6         117.8         13.9         47.2         304.3         125.6         13.1         42.2         294.8         129.6         12.7         39.6         283.8         133.5         12.2         36.8           9.4         45         98.2         111.1         235.7         18.0         93.2         118.9         223.7         16.3         88.0         126.8         121.2         14.6         85.3         131.0         204.8         13.4         99.6         12.7           7.2         345.4         111.1         14.9         53.9         327.8         118.9         14.1         487.3         39.6         126.8         13.3         43.6         300.0         131.0         204.8         13.1         42.2         294.6         16.4         90.8         136.1         218.0         15.5		42	94.3	108.6	226.3	16.7	89.2	116.0	214.2	15.0	84.1	123.4	201.8	13.3	81.4	127.3	195.4	12.5	78.4	131.1	188.3	11.7
9.4     45     98.2     111.1     235.7     18.0     93.2     118.9     223.7     16.3     88.0     126.8     211.2     14.6     85.3     131.0     204.8     13.7     82.1     134.9     197.0     12.7       7.2     345.4     111.1     14.9     53.9     327.8     118.9     14.1     48.7     309.6     126.8     13.3     43.6     300.0     131.0     12.9     41.0     288.7     134.9     12.4     38.1       48     103.9     114.6     249.3     20.1     98.8     123.0     237.2     18.2     93.6     131.6     224.6     16.4     90.8     136.1     218.0     15.5     87.1     140.1     209.0     14.3		44	96.8	110.2	232.3	17.5	91.7	117.8	220.1	15.8	86.5	125.6	207.7	14.1	83.8	129.6	201.2	13.3	80.7	133.5	193.7	12.3
7.2         345.4         111.1         14.9         53.9         327.8         118.9         14.1         48.7         309.6         126.8         13.3         43.6         300.0         131.0         12.9         41.0         288.7         134.9         12.4         38.1           48         103.9         114.6         249.3         20.1         98.8         123.0         237.2         18.2         93.6         131.6         224.6         16.4         90.8         136.1         218.0         15.5         87.1         140.1         209.0         14.3																						36.8 12.7
		7.2	345.4	111.1	14.9	53.9	327.8	118.9	14.1	48.7	309.6	126.8	13.3	43.6	300.0	131.0	12.9	41.0	288.7	134.9	12.4	38.1
8.9   305.3   114.6   15.7   60.1   347.6   123.0   15.0   54.5   329.1   131.6   14.2   49.1   319.4   136.1   13.8   46.3   306.3   140.1   13.2   42.7		8.9	365.3	114.6	15.7	60.1	347.6	123.0	15.0	54.5	329.1	131.6	14.2	49.1	319.4	136.1	13.8	46.3	306.3	140.1	13.2	42.7

Table 4 continued



#### **CAPACITY RATINGS - 60 HZ**

	LOWE								Conde	enser E	ntering	J Temper	rature °	F (°C)							
Model	LCWT	Ccap	95°F PI	(35°C) WFR	WPD	Ccap	105°F Pl	(40.6°C) WFR	WPD	Ccap	115°F PI	(46.1°C) WFR	WPD	Ccap	120°F Pl	(48.9°C) WFR	WPD	Ccap	125°F Pl	(51.7°C) WFR	WPD
APCD	°F	TR	kW	USgpm	ftwg	TR	kW	USgpm	ftwg	TR	kW	USgpm	ftwg	TR	kW	USgpm	ftwg	TR	kW	USgpm	ftwg
EER	<i>℃</i> 42	<i>kW</i> 108.3	117.8	//s 259.9	19.0	<i>kW</i> 101.8	<i>kW</i> 125.4	//s 244.3	<b><i>kPa</i></b> 16.8	<i>kW</i> 95.2	133.1	228.5	14.7	<i>kW</i> 91.8	137.1	220.4	13.7	88.5	141.4	212.3	12.7
	5.6	380.9	117.8	16.4	56.7	358.0	125.4	15.4	50.2	334.8	133.1	14.4	44.0	323.0	137.1	13.9	40.9	311.1	141.4	13.4	37.9
	44	112.2	120.1	269.2	20.3	105.5	127.9	253.3	18.0	98.9	135.9	237.3	15.9	95.5	140.2	229.1	14.8	92.0	144.7	220.8	13.7
6110 B	6.7	394.4	120.1	17.0	60.7	371.2	127.9	16.0	53.9	347.7	135.9	15.0	47.4	335.7	140.2	14.5	44.2	323.5	144.7	13.9	41.0
9.8	45	114.2	121.2	274.1	21.0	107.6	129.2	258.1	18.7	100.8	137.5	242.0	16.5	97.4	141.8	233.7	15.4	93.9	146.4	225.3	14.3
	7.2	401.6	121.2	17.3	62.8	378.3	129.2	16.3	56.0	354.6	137.5	15.3	49.3	342.5	141.8	14.7	46.0	330.2	146.4	14.2	42.8
	48	122.0	125.7	292.8	23.9	115.3	134.3	276.7	21.4	108.5	143.3	260.3	19.0	105.0	148.1	251.9	17.8	101.4	153.3	243.3	16.7
	8.9	429.0	125.7	18.5	71.4	405.5	134.3	17.5	64.0	381.5	143.3	16.4	56.9	369.1	148.1	15.9	53.3	356.5	153.3	15.3	49.8
	42	113.9	123.0	273.4	20.9	107.4	131.3	257.7	18.7	100.7	139.7	241.7	16.5	97.3	144.1	233.6	15.4	93.9	148.8	225.3	14.3
	5.6	400.7	123.0	17.3	62.6	377.6	131.3	16.3	55.8	354.2	139.7	15.2	49.2	342.3	144.1	14.7	45.9	330.2	148.8	14.2	42.8
	44	118.0	125.2	283.2	22.4	111.3	133.8	267.2	20.0	104.5	142.6	250.9	17.7	101.1	147.2	242.6	16.6	97.6	152.0	234.2	15.5
6115 B	6.7	414.9	125.2	17.9	66.9	391.5	133.8	16.9	59.8	367.7	142.6	15.8	52.9	355.6	147.2	15.3	49.5	343.3	152.0	14.8	46.2
9.9	45	120.1	126.4	288.3	23.2	113.4	135.1	272.2	20.7	106.6	144.1	255.8	18.4	103.1	148.8	247.5	17.2	99.6	153.8	239.0	16.1
7.7	7.2	422.5	126.4	18.2	69.3	398.9	135.1	17.2	62.0	374.9	144.1	16.1	55.0	362.7	148.8	15.6	51.5	350.2	153.8	15.1	48.1
	48	128.2	130.7	307.6	26.2	121.4	140.1	291.3	23.7	114.5	149.9	274.7	21.1	110.9	155.0	266.2	19.9	107.3	160.5	257.6	18.6
	8.9	450.7	130.7	19.4	78.5	426.9	140.1	18.4	70.7	402.6	149.9	17.3	63.1	390.1	155.0	16.8	59.4	377.4	160.5	16.2	55.7
	42	119.4	128.2	286.6	22.9	112.8	137.2	270.8	20.5	106.1	146.4	254.7	18.2	102.7	151.2	246.5	17.1	99.2	156.1	238.2	16.0
	5.6	420.0	128.2	18.1	68.5	396.8	137.2	17.1	61.4	373.2	146.4	16.1	54.5	361.2	151.2	15.6	51.1	349.0	156.1	15.0	47.8
(125 D	44	123.7	130.4	296.8	24.5	116.9	139.7	280.7	22.0	110.1	149.3	264.3	19.6	106.6	154.2	255.9	18.4	103.1	159.4	247.4	17.2
6125 B	6.7	434.9	130.4	18.7	73.3	411.3	139.7	17.7	65.8	387.3	149.3	16.7	58.6	375.0	154.2	16.1	55.0	362.6	159.4	15.6	51.5
10.0	45	125.9	131.5	302.2	25.4	119.1	141.1	285.9	22.8	112.2	150.8	269.4	20.3	108.7	155.9	260.9	19.1	105.2	161.2	252.4	17.9
	7.2	442.8	131.5	19.1	75.8	419.0	141.1	18.0	68.2	394.7	150.8	17.0	60.8	382.4	155.9	16.5	57.1	369.8	161.2	15.9	53.5
	48	134.1	135.7	322.0	28.7	127.3	145.9	305.5	25.9	120.3	156.4	288.7	23.2	116.7	162.0	280.2	21.9	113.1	167.8	271.5	20.6
	8.9	471.8	135.7	20.3	85.6	447.7	145.9	19.3	77.5	423.1	156.4	18.2	69.5	410.6	162.0	17.7	65.6	397.8	167.8	17.1	61.7
	42	124.8	133.4	299.5	24.9	118.2	143.2	283.6	22.5	111.4	153.1	267.4	20.0	108.0	158.2	259.2	18.9	104.5	163.5	250.8	17.7
	5.6	438.9	133.4	18.9	74.5	415.6	143.2	17.9	67.1	391.9	153.1	16.9	59.9	379.8	158.2	16.4	56.4	367.5	163.5	15.8	52.9
6130 B	44	129.2	135.6	310.1	26.7	122.5	145.7	293.9	24.1	115.6	155.9	277.4	21.5	112.1	161.3	268.9	20.3	108.5	166.8	260.4	19.0
	6.7	454.4	135.6	19.6	79.7	430.7	145.7	18.5	71.9	406.4	155.9	17.5	64.3	394.1	161.3	17.0	60.6	381.6	166.8	16.4	56.9
10.1	45	131.5	136.7	315.7	27.6	124.7	147.0	299.3	24.9	117.8	157.5	282.6	22.3	114.2	162.9	274.1	21.0	110.6	168.5	265.5	19.8
	7.2	462.6	136.7	19.9	82.5	438.6	147.0	18.9	74.5	414.2	157.5	17.8	66.7	401.7	162.9	17.3	62.9	389.0	168.5	16.7	59.1
	48	140.0	140.7	335.9	31.1	133.1	151.7	319.3	28.2	126.0	163.0	302.4	25.4	122.4	168.9	293.8	24.0	118.8	175.1	285.0	22.7
	8.9	492.2	140.7	21.2	92.9	468.0	151.7	20.1	84.3	443.1	163.0	19.1	75.9	430.5	168.9	18.5	71.8	417.7	175.1	18.0	67.8
	42	130.4	143.9	313.1	27.2	123.6	154.1	296.5	24.5	116.5	164.6	279.7	21.9	112.9	170.0	271.0	20.6	109.2	175.6	262.1	19.3
	5.6	458.8	143.9	19.8	81.2	434.5	154.1	18.7	73.1	409.8	164.6	17.6	65.4	397.1	170.0	17.1	61.5	384.1	175.6	16.5	57.6
	44	134.9	146.4	323.9	29.0	127.9	157.0	307.0	26.2	120.7	167.8	289.8	23.4	117.1	173.4	280.9	22.1	113.3	179.2	271.8	20.7
6135 B	6.7	474.6	146.4	20.4	86.6	449.9	157.0	19.4	78.2	424.7	167.8	18.3	70.0	411.7	173.4	17.7	65.9	398.4	179.2	17.2	61.9
9.9	45	137.3	147.7	329.5	30.0	130.2	158.4	312.5	27.1	123.0	169.5	295.1	24.2	119.2	175.2	286.2	22.9	115.4	181.2	277.0	21.5
	7.2	482.9	147.7	20.8	89.5	458.0	158.4	19.7	80.9	432.5	169.5	18.6	72.5	419.4	175.2	18.1	68.3	405.9	181.2	17.5	64.1
	48	145.7	152.2	349.7	33.6	138.6	163.7	332.6	30.5	131.2	175.7	314.9	27.5	127.4	181.9	305.8	26.0	123.5	188.4	296.4	24.4
	8.9	512.5	152.2	22.1	100.4	487.3	163.7	21.0	91.1	461.5	175.7	19.9	82.1	448.2	181.9	19.3	77.6	434.3	188.4	18.7	73.1
	42	135.9	154.4	326.2	29.4	128.8	165.1	309.1	26.5	121.5	176.1	291.5	23.7	117.7	181.8	282.4	22.3	113.7	187.6	273.0	20.9
	5.6 44	478.1 140.5	154.4 157.2	20.6 337.2	87.8 31.3	452.9 133.2	165.1 168.3	19.5 319.7	79.2 28.3	427.2 125.7	176.1 179.6	18.4 301.8	70.8 25.3	413.8 121.9	181.8 185.5	17.8 292.5	23.8	400.0 117.8	187.6 191.6	17.2 282.8	62.4 22.3
6140 B	6.7	494.1	157.2	21.3	93.6	468.5	168.3	20.2	84.5	442.2	179.6	19.0	75.6	428.6	185.5	18.5	71.2	414.5	191.6	17.8	66.8
9.6	45	142.9	158.6	342.9	32.3	135.5	169.9	325.3	29.2	128.0	181.5	307.2	26.2	124.1	187.5	297.8	24.7	120.0	193.8	288.0	23.1
	7.2	502.5	158.6	21.6	96.6	476.7	169.9 175.7	20.5 345.3	87.4	450.1	181.5	19.4	78.3	436.3 132.2	187.5	18.8	73.7 27.9	422.1 128.1	193.8	18.2	69.2
	48 8.9	151.2 531.9	163.6 163.6	363.0 22.9	36.1 107.8	143.9 506.0	175.7	21.8	32.8 97.9	136.2 479.1	188.3 188.3	326.9 20.6	29.5 88.2	465.1	194.9 194.9	317.4 20.0	83.3	450.6	201.7 201.7	307.5 19.4	26.2 78.4
	42	141.2	164.9	338.9	31.6	133.8	176.1	321.2	28.5	126.2	187.6	302.9	25.5	122.2	193.5	293.3	24.0	117.8	199.4	282.6	22.3
	5.6	496.7	164.9	21.4	94.5	470.7	176.1	20.3	85.3	443.9	187.6	19.1	76.2	429.9	193.5	18.5	71.6	414.1	199.4	17.8	66.7
6145 B	44	145.9	167.9	350.0	33.6	138.3	179.5	332.0	30.4	130.5	191.5	313.3	27.2	126.5	197.7	303.5	25.6	121.6	203.6	291.9	23.7
	6.7	513.0	167.9	22.1	100.6	486.5	179.5	20.9	90.8	459.1	191.5	19.8	81.3	444.8	197.7	19.1	76.5	427.8	203.6	18.4	71.0
9.4	45	148.3	169.5	355.8	34.7	140.7	181.3	337.6	31.4	132.8	193.5	318.8	28.1	128.7	199.8	308.9	26.5	123.7	205.7	296.8	24.5
	7.2	521.4	169.5	22.4	103.8	494.8	181.3	21.3	93.8	467.1	193.5	20.1	84.0	452.6	199.8	19.5	79.1	434.9	205.7	18.7	73.3
	48	156.6	174.9	375.8	38.6	149.0	187.6	357.5	35.0	141.0	200.8	338.3	31.5	136.8	207.7	328.4	29.8	131.0	213.7	314.5	27.4
	8.9	550.7	174.9	23.7	115.3	524.0	187.6	22.6	104.7	495.8	200.8	21.3	94.2	481.2	207.7	20.7	88.9	460.8	213.7	19.8	81.9
	42	148.0	161.3	355.3	17.7	139.4	172.0	334.6	15.7	130.7	182.9	313.6	13.9	126.2	188.6	303.0	13.0	121.7	194.6	292.2	12.1
	5.6	520.6	161.3	22.4	52.8	490.3	172.0	21.1	47.0	459.6	182.9	19.8	41.5	444.0	188.6	19.1	38.8	428.2	194.6	18.4	36.2
6155 B	44	153.2	164.2	367.7	18.9	144.5	175.3	346.7	16.9	135.6	186.6	325.4	14.9	131.1	192.6	314.5	14.0	126.5	198.9	303.5	13.0
	6.7	538.9	164.2	23.2	56.5	508.1	175.3	21.9	50.4	476.8	186.6	20.5	44.6	460.9	192.6	19.8	41.7	444.7	198.9	19.1	38.9
9.6	45	155.8	165.7	374.0	19.5	147.0	177.0	352.8	17.4	138.1	188.5	331.3	15.4	133.5	194.6	320.4	14.5	128.8	201.0	309.2	13.5
	7.2	548.1	165.7	23.6	58.4	517.1	177.0	22.3	52.1	485.5	188.5	20.9	46.2	469.5	194.6	20.2	43.2	453.1	201.0	19.5	40.4
	48	165.4	170.9	396.9	21.9	156.5	183.0	375.5	19.7	147.4	195.4	353.7	17.5	142.7	202.1	342.5	16.5	137.9	209.1	331.1	15.4
	8.9	581.7	170.9	25.0	65.6	550.3	183.0	23.7	58.9	518.3	195.4	22.3	52.4	501.9	202.1	21.6	49.2	485.1	209.1	20.9	46.1
	42	154.5	165.0	370.8	19.2	145.8	176.6	350.0	17.2	137.0	188.2	328.9	15.2	132.6	194.2	318.2	14.3	128.0	200.5	307.3	13.3
	5.6	543.3	165.0	23.4	57.4	512.8	176.6	22.1	51.3	481.9	188.2	20.7	45.5	466.2	194.2	20.1	42.7	450.3	200.5	19.4	39.9
	44	159.9	167.9	383.8	20.5	151.1	179.8	362.6	18.4	142.1	191.8	341.2	16.3	137.6	198.1	330.2	15.3	133.0	204.7	319.1	14.4
6165 B	6.7 45	562.5 162.7	167.9 169.3	24.2 390.5	61.4 21.2	531.4 153.8	179.8 181.4	22.9 369.1	55.0 19.0	499.9 144.7	191.8 193.7	21.5 347.4	48.8 16.9	483.9 140.1	198.1 200.1	20.8	45.9 15.9	467.7 135.5	204.7 206.7	20.1 325.1	42.9
9.9	7.2	572.2	169.3	24.6	63.5	540.9	181.4	23.3	56.9	509.1	193.7	21.9	50.6	492.9	200.1	336.3 21.2	47.5	476.4	206.7	20.5	14.9 44.5
	48 8.9	172.5 606.8	174.2 174.2	414.1 26.1	23.8 71.2	163.5 575.1	187.1 187.1	392.5 24.8	21.5 64.1	154.3 542.8	200.3 200.3	370.4 23.4	19.2 57.3	149.6 526.3	207.2	359.2 22.7	18.1 54.0	144.9 509.5	214.5 214.5	347.7 21.9	17.0 50.7
	42	160.6	168.9	385.5	20.7	151.9	181.3	364.6	18.6	143.1	193.6	343.5	16.6	138.6	200.0	332.7	15.6	134.1	206.6	321.8	14.6
	5.6	565.0	168.9	24.3	62.0	534.3	181.3	23.0	55.6	503.3	193.6	21.7	49.5	487.6	200.0	21.0	46.5	471.5	206.6	20.3	43.6
	44	166.3	171.7	399.1	22.2	157.4	184.4	377.9	19.9	148.4	197.2	356.2	17.8	143.9	203.8	345.2	16.7	139.2	210.6	334.1	15.7
6170 B	6.7	584.9	171.7	25.2	66.3	553.7	184.4	23.8	59.6	522.0	197.2	22.5	53.1	505.9	203.8	21.8	50.0	489.6	210.6	21.1	46.9
10.1	45	169.2	173.0	406.1	22.9	160.2	185.9	384.6	20.6	151.1	199.0	362.7	18.4	146.5	205.7	351.6	17.3	141.8	212.7	340.3	16.3
	7.2	595.0	173.0	25.6	68.5	563.5	185.9	24.3	61.6	531.5	199.0	22.9	55.0	515.2	205.7	22.2	51.8	498.7	212.7	21.5	48.6
	48	179.3	177.7	430.4	25.7	170.2	191.4	408.6	23.2	161.0	205.4	386.4	20.8	156.3	212.6	375.0	19.6	151.5	220.2	363.5	18.5
	8.9	630.7	177.7	27.2	76.7	598.7	191.4	25.8	69.4	566.2	205.4	24.4	62.2	549.6	212.6	23.7	58.7	532.7	220.2	22.9	55.3
	42	165.1	175.2	396.1	21.8	156.4	188.2	375.3	19.7	147.5	201.3	354.1	17.6	143.0	208.0	343.3	16.5	138.5	215.0	332.3	15.5
	5.6	580.5	175.2	25.0	65.3	549.9	188.2	23.7	58.8	518.9	201.3	22.3	52.5	503.1	208.0	21.7	49.4	487.0	215.0	21.0	46.4
6175 B	44	170.9	178.0	410.1	23.4	162.0	191.4	388.8	21.1	153.0	204.9	367.1	18.8	148.4	211.9	356.1	17.8	143.7	219.1	344.8	16.7
	6.7	601.0	178.0	25.9	69.9	569.8	191.4	24.5	63.0	538.0	204.9	23.2	56.3	521.8	211.9	22.5	53.1	505.3	219.1	21.8	49.9
10.0	45	173.8	179.4	417.2	24.2	164.9	193.0	395.7	21.8	155.7	206.7	373.7	19.5	151.1	213.9	362.5	18.4	146.3	221.2	351.2	17.3
	7.2	611.4	179.4	26.3	72.2	579.8	193.0	25.0	65.2	547.7	206.7	23.6	58.3	531.3	213.9	22.9	55.0	514.6	221.2	22.2	51.7
	48	184.1	184.1	441.9	27.0	175.0	198.5	420.0	24.5	165.7	213.3	397.6	22.0	160.9	220.9	386.2	20.8	156.1	228.8	374.7	19.6
	8.9	647.5	184.1	27.9	80.8	615.5	198.5	26.5	73.2	582.7	213.3	25.1	65.8	566.0	220.9	24.4	62.2	549.1	228.8	23.6	58.6

Table 4 continued



### **CAPACITY RATINGS - 60 HZ**

Column   C	1 700)	(E4 30C)	10505			(40,000)	1000=	(°C)	ature °I	Temper		enser E	Conde	(40, (00)	10505			(2500)	0505		LCWT	Model
APOL 97		(51.7°C) WFR		Ccap	WPD			Ccap	WPD			Ccap	WPD			Ccap	WPD			Ccap	LCVVI	Widuei
44 1707 1854 4097 223 1818 8897 882 210 1827 2122 5604 188 180 2 190 5052 177 4832 2229 180 180 180 180 2 190 5052 177 4832 2229 180 180 180 180 180 180 180 180 180 180	Sgpm ft	USgpm	kW	TR	ftwg		kW	TR	ftwg	USgpm	kW	TR	ftwg		kW	TR	ftwg		kW	TR		
	1/s <i>k</i> 343.7 1	343.7																				EER
	21.7 4	21.7	226.7	503.7	52.8	22.4	219.5	520.5	56.1	23.1	212.5	536.9	62.8	24.5	198.9	568.9	69.8	25.9	185.4	600.4	5.6	
18	356.5 1 22.5 5	356.5																				6180 B
68 1899 1893 1893 1893 1893 1893 1893 189	362.9 1	362.9	233.5	151.2	19.6	374.7	225.9	156.1	20.8	386.4	218.5	161.0	23.2	409.0	204.1	170.4	25.8	431.1	190.1	179.6	45	
618   686   686   75   288   681   750   750   77   778   6973   285   280   980   231   281   581   580   79   285	22.9 <u>5</u> 386.5 2	22.9 386.5												25.8 433.4								
	24.4 6	24.4	241.8	566.3	66.1	25.1	233.5	584.0	69.9	25.9	225.5	601.3	77.8	27.3	210.2	635.1	85.8	28.8	195.3	668.0	8.9	
648   649	354.9 1 22.4 5	354.9 22.4																				
45   88.3   2007   444   274   175   2153   4219   247   266   2302   2986   2221   1611   2379   386.6   208   208   2459   2	367.7 1	367.7	243.4	153.2	20.1	380.0	235.6	158.3	21.4	391.8	228.0	163.3	23.9	414.8	213.4	172.9	26.5	437.4	199.1	182.2	44	(10F.D
48 19-50   2004   49-50   2004   49-50   2004   2012   2012   2012   2013   2014   2013   2014   201	23.2 5 374.2 1	374.2					237.9	161.1														
42 886 2000 435 9 702 772 2003 4132 237 1625 2349 3901 212 1975 2425 3781 200 1503 3503 500 500 500 500 500 500 500 500	23.6 5 397.8 2	23.6 397.8	245.9					566.6	66.1		230.2	584.2			215.3							
5.66   5.88   2000   27.5   78.7   695.6   270.3   27.1   77.0   571.6   234.9   24.6   63.4   54.0   54.0   54.5   54.5   55.8   290.1   27.1   28	25.1 6	25.1	254.7	582.9	70.0	25.9	246.1	601.5	74.1	26.7	237.8	619.4	82.4	28.2	221.8	654.1	90.9	29.6	206.4	687.9	8.9	
44 887 2996 4505 2996 4505 288 1 788 2944 2770 253 1882 2396 4037 277 1633 2474 279 3914 213 1588 2536 455 244 279 489 249 398 220 1615 288 289 249 249 249 249 249 249 249 249 249 24	365.6 1 23.1 5	365.6																				
9.9. 46 1908 2114 4579 290 1811 2204 4346 262 211 241 94106 234 1659 2499 3981 221 1055 2881 4891 4891 4891 4891 4891 4891 4891 4	378.6 2	378.6	255.5	157.8	21.3	391.4	247.4	163.1	22.7	403.7	239.6	168.2	25.3	427.4	224.4	178.1	28.1	450.5	209.6	187.7	44	
17.2	23.9 <u>5</u> 385.2 2	23.9 385.2																				
199   707.2   2174   304   999   777   2334   290   870   870   870   2500   274   873   884   286   266   739   5991   2075	24.3 6	24.3	258.1	564.5	66.0	25.1	249.9	583.4	70.0	25.9	241.9	601.7	78.2	27.4	226.4	636.8	86.6	28.9	211.4	671.1	7.2	7.0
42 1869   16.2 448,5   27.8   77.2   2310   425.3   251   16.73   2461   45.3   25.9   39.0   21.1   156.4   261.8   44	408.8 2 25.8 6	408.8 25.8	267.6						26.2 78.3		250.0 250.0	181.1 637.0			233.4							
44   1931   2201   4633   796   1832   2354   4396   2688   1730   2511   415.3   239   4677   2992   4002   22.5   5161   5671   6971    9.4   45   1962   2220   4708   306   1862   2376   4469   2766   1757   2576   1757   2576   4222   247   1705   2619   4708   233   1641   2698    9.7   267   267   267   267   267   267   267   267   267   267   267   267   267   267   267   267   267    48.9   7261   2285   313   1010   6907   2460   297   916   6540   2622   262   262   6347   2711   273   777   6909   279   175    48.9   7261   2285   313   3010   6907   2460   297   916   6540   2622   262   262   6347   2711   273   777   6909   279   175    48.9   7104   7018   306   6963   2227   288   453   6777   2571   270   401   6067   2446   2414   261    48.7   7145   2718   313   316   512   260   301   268   368   6741   4525   319   418   261    48.9   7140   7140   27118   317   327   360   3663   268   268   3677   2571   2571   270   401   6067   2446   2414   276   478   276   276    48.9   7140   7140   27118   317   327   360   3608   3693   2692   3616   168   886   2444   4525   479   479   279   279   479   479   279   4	375.4 1	375.4	261.8	156.4	21.1	389.0	253.9	162.1	22.4	401.5	246.1	167.3	25.1	425.3	231.0	177.2	27.8	448.5	216.2	186.9	42	
		387.7			22.5	402.5	259.2	167.7	23.9	415.3	251.1	173.0	26.8	439.6	235.4	183.2	29.6	463.3	220.1	193.1		
Page	24.5 6		267.1	568.2	67.4	25.4	259.2	589.8	71.6	26.2	251.1	608.5	80.0	27.7	235.4	644.3	88.6	29.2	220.1	679.0	6.7	
10   10   10   10   10   10   10   10	24.9 6	24.9	269.8	577.3	69.6	25.8	261.9	599.8	73.9	26.6	253.6	618.7	82.6	28.2	237.6	654.9	91.4	29.7	222.0	690.0	7.2	7.4
42   2020   208.3   484.8   17.0   1903   222.7   456.7   15.2   178.5   237.1   428.3   134.   172.5   244.6   241.0   12.6   166.5   252.4     44   2090   271.8   501.5   181   197.1   226.8   473.0   16.2   185.1   241.7   444.1   144.1   179.0   249.5   245.5   245.5     49   212.8   213.7   531.6   532.5   269.1   228.8   48.6   650.9   241.2   241.8   241.7   444.1   144.1   179.0   249.5   249.5   241.8   241.	415.6 2 26.2 7	415.6																				
Calubra   Calu	399.5 1	399.5	252.4	166.5	12.6	414.0	244.6	172.5	13.4	428.3	237.1	178.5	15.2	456.7	222.7	190.3	17.0	484.8	208.3	202.0	42	
Color   Colo	25.2 3 414.7 1	25.2 414.7				26.1 429.5									222.7							
Part	26.2	26.2	257.6	607.8	40.3	27.1	249.5	629.5	42.9	28.0	241.7	650.9	48.4	29.8	226.8	693.1	54.2	31.6	211.8	734.9	6.7	
84	422.8 1 26.7 3	422.8 26.7																				10.0
42   272.8   231.0   510.6   18.8   200.0   246.0   480.0   16.7   187.1   261.0   449.0   14.7   180.5   268.9   433.3   13.7   173.9   277.3   44   279.7   235.1   527.8   200   207.0   250.6   496.8   71.8   173.9   266.3   465.4   15.7   187.3   274.5   449.5   14.7   180.5   283.2   483.3   598.9   728.0   250.6   496.8   71.8   71.8   71.7   71.5   251.5   277.5   278.5   278.5   250.6   496.8   37.8   250.6   266.0   266.3   264.4   47.6   567.7   274.5   248.4   439.6   365.0   283.2   483.3   487.5   288.4   439.5   268.0   268.5   274.5   288.4   288.5   268.0   268.5   274.5   288.5   2	452.7 1	452.7	270.2	188.6	15.9	468.0	261.2	195.0	16.9	483.1	252.7	201.3	18.9	512.8	236.3	213.6	21.0	541.9	220.1	225.8	48	
6240 B   6260 B   6	28.6 4 417.4 1	417.4				433.3																
9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6	26.3		277.3	611.7		27.3	268.9	634.9		28.3	261.0	657.9	49.8	30.3	246.0	703.3	56.1		231.0	748.3		
Part	27.3 4	27.3	283.2	635.0	43.9	28.4	274.5	658.7	47.0	29.4	266.3	682.0	53.2	31.3	250.6	728.0	59.8	33.3	235.1	773.5	6.7	
48	441.7 1 27.9 4	441.7 27.0									269.0				253.0							9.6
42	472.5 1	472.5	297.7	196.9	17.3	489.2	288.0	203.9	18.4	505.6	278.8	210.7	20.7	537.6	261.5	224.0	23.1	569.0	244.7	237.1	48	
CASE   Part	29.8 4 442.9 1	29.8 442.9																				
9.7   45   235.1   247.2   556.4   576.3   262.1   33.0   58.9   720.9   279.3   31.0   52.2   697.3   288.2   30.0   49.0   673.4   297.6   72.0   72.0   247.2   35.6   67.9   780.9   264.5   33.6   60.9   73.4   282.0   31.6   54.1   710.4   291.1   30.6   50.8   686.3   30.0   48.9   875.8   272.8   56.5   222.9   264.5   556.9   22.9   22.3   291.6   33.5   54.1   710.4   291.1   30.6   50.8   686.3   30.0   48.9   875.8   254.4   37.7   75.8   829.2   722.8   35.7   68.3   781.8   291.6   33.7   61.0   757.6   301.5   537.0   19.2   208.4   320.0   294.2   234.2   254.2   251.1   552.0   22.6   221.3   254.0   531.2   202.2   293.3   287.0   33.5   61.0   757.6   301.5   32.6   57.4   732.9   312.0   20.0   23.6   25.1   532.0   22.6   221.3   254.0   25.1   252.0   252.6   231.3   254.0   25.1   252.1   2	27.9 4	27.9	291.6	649.0	45.7	29.0	282.6	672.5	48.8	29.9	274.0	695.6	55.1	31.9	257.5	741.3	61.7	33.9	241.0	786.4	5.6	
Page	29.0 4	459.5 29.0									279.3			33.0		767.3		35.0	245.1 245.1			6240 B
48   249.0   254.4   377.   75.8   235.8   72.8   565.9   22.9   222.2   291.6   533.5   20.4   215.4   301.5   517.0   19.2   208.4   312.0     42   234.2   251.1   562.0   22.6   221.3   269.0   531.2   20.2   208.3   287.0   49.9   18.0   201.7   296.3   484.0   16.9   194.9   366.0     56   823.6   251.1   35.5   4.7   77.8   269.0   33.5   60.5   73.6   287.0   31.5   53.9   709.3   296.3   30.5   50.6   685.6   306.0     44   242.1   255.1   581.0   24.0   229.0   273.6   549.7   21.6   215.8   292.2   517.8   19.3   209.0   30.5   501.6   685.6   306.0     9.9   45   246.2   257.2   591.0   24.8   233.1   276.0   559.4   224.   219.7   295.0   237.5   20.0   212.9   304.8   510.9   18.8   206.0   315.1     48   260.6   257.2   37.3   74.2   819.7   276.0   353.   66.8   77.7   295.0   333.   507.7   748.7   304.8   32.2   56.2   724.4   315.1     48   260.6   264.3   625.3   277.   247.2   284.1   579.4   250.0   233.6   304.5   560.7   225.2   225.1   236.0   236.0   236.0     48   260.6   264.3   625.3   277.   247.2   280.6   555.8   221.1   218.8   300.0   331.1   591.0   316.3   32.0   32.0   32.0     40   244.5   261.2   586.7   245.5   231.6   280.6   555.8   221.1   218.6   300.0   331.1   591.0   316.3   32.0	468.3 1 29.5 4	468.3													264.5							9.7
42   2342   2511   3520   226   2213   2690   5312   202   2083   2870   499.9   18.0   2017   296.3   484.0   16.9   194.9   306.0	500.2	500.2	312.0			517.0	301.5	215.4			291.6			565.9	272.8	235.8	25.4		254.4			
650 By Properties         8236   2511   355   5870   240   2290   2336   605   335   605   326   2870   315   539   709.3   296.3   305   506   685.6   306.0   315   320	31.6 <u>5</u> 467.9 1	31.6 467.9												35.7 531.2								
6250 B         6.7         881.5         255.1         36.7         71.9         805.5         273.6         34.7         64.6         758.9         292.2         32.7         57.6         735.1         301.9         31.6         54.2         71.10         312.0           4.9         4.6         246.2         257.2         591.0         24.8         233.1         276.0         35.3         66.8         772.2         295.0         33.3         59.7         748.7         304.8         32.2         56.2         724.4         315.1           48         260.6         264.3         625.3         27.7         247.2         284.1         394.4         250.2         233.6         304.5         56.7         744.8         315.1         34.3         304.5         362.7         442.245.2         245.2         256.7         245.2         245.2         245.2         245.2         245.2         245.2         245.2         245.2         245.2         245.2         245.2         245.2         245.2         245.2         245.2         245.2         248.1         337.4         74.8         285.2         249.2         249.2         249.2         249.2         249.3         248.2         245.2         241.2 </td <td>29.5 4</td> <td>29.5</td> <td>306.0</td> <td>685.6</td> <td>50.6</td> <td>30.5</td> <td>296.3</td> <td>709.3</td> <td>53.9</td> <td>31.5</td> <td>287.0</td> <td>732.6</td> <td>60.5</td> <td>33.5</td> <td>269.0</td> <td>778.4</td> <td>67.4</td> <td>35.5</td> <td>251.1</td> <td>823.6</td> <td>5.6</td> <td></td>	29.5 4	29.5	306.0	685.6	50.6	30.5	296.3	709.3	53.9	31.5	287.0	732.6	60.5	33.5	269.0	778.4	67.4	35.5	251.1	823.6	5.6	
45         246.2         257.2         591.0         24.8         233.1         276.0         559.4         22.4         219.7         295.0         527.3         20.0         212.9         304.8         510.9         18.8         206.0         315.1           48         260.6         264.3         362.5         277.7         247.2         284.1         593.4         250.0         233.6         560.7         22.5         226.7         315.1         544.0         21.2         219.6         326.2           48         260.6         264.3         39.5         82.7         869.5         284.1         593.4         250.0         304.5         36.4         67.1         797.2         315.1         544.0         21.2         219.6         326.2           42         244.5         261.2         586.7         24.5         281.6         555.8         22.1         218.6         300.0         524.5         19.8         211.9         310.1         586.6         18.6         205.1         320.4           4204.8         282.7         265.2         260.6         555.8         221.1         218.6         203.3         350.3         543.2         211.9         315.7         540.5	485.2 1 30.6 5	485.2 30.6													273.6 273.6							6250 B
48   260.6   264.3   625.3   27.7   247.2   284.1   593.4   250.0   233.6   304.5   560.7   22.5   226.7   315.1   544.0   21.2   219.6   326.2     42   244.5   261.2   586.7   24.5   231.6   280.6   555.8   22.1   218.6   300.0   524.5   19.8   211.9   310.1   508.6   18.6   205.1   320.4     5.6   859.8   261.2   37.0   73.2   814.5   280.6   35.1   66.0   768.7   300.0   33.1   591.   745.3   310.1   32.1   55.7   721.5   320.4     42   257.2   265.2   606.5   261.   239.6   285.1   575.1   23.6   226.3   305.3   543.2   21.1   219.5   315.7   526.9   19.9   212.6   326.4     67   888.8   265.2   38.3   78.0   842.8   285.1   36.3   70.5   796.0   305.3   34.3   63.2   772.1   315.7   33.2   59.6   747.8   326.4     48   271.8   274.2   652.2   30.0   258.4   295.5   620.1   27.2   244.6   317.4   587.1   24.5   237.6   328.7   570.4   23.2   230.6   340.5     8.9   955.7   274.2   41.1   89.7   908.6   295.5   630.1   27.2   244.6   317.4   370.7   73.3   835.8   328.7   570.4   23.2   230.6   340.5     6270 B   42   264.0   286.1   633.6   284.   250.4   306.9   611.2   228.6   322.2   548.7   21.5   221.7   332.8   532.0   20.3   214.5   343.7     42   265.0   281.5   613.4   26.7   242.2   301.7   581.3   241.1   228.6   322.2   548.7   21.5   221.7   332.8   532.0   20.3   214.5   343.7     42   264.0   286.1   633.6   284.   250.4   306.9   611.2   22.6   322.2   548.7   21.5   221.7   332.8   330.6   60.7   754.5   343.7     45   268.4   288.4   644.1   29.3   254.7   309.5   611.2   26.5   240.7   331.1   577.7   23.8   233.5   342.3   560.4   22.4   226.1   350.3     48   283.1   296.1   679.5   32.5   269.3   318.5   646.2   295.5   255.0   331.1   577.7   238.   233.5   342.3   560.4   22.4   226.1   353.8     47   274.9   288.4   644.1   29.3   254.7   309.5   38.6   79.2   246.5   331.1   36.7   77.7   238.1   335.5   574.5   251.1   240.2   365.9     48   283.1   296.1   679.5   32.5   269.3   318.5   646.2   295.5   255.0   331.5   646.2   295.5   255.0   331.5   646.2   295.5   255.0   331.	494.3 1	494.3	315.1	206.0	18.8	510.9	304.8	212.9	20.0	527.3	295.0	219.7	22.4	559.4	276.0	233.1	24.8	591.0	257.2	246.2	45	
8.9         916.4         264.3         39.5         82.7         869.5         284.1         37.4         74.8         821.6         304.5         35.4         67.1         797.2         315.1         34.3         63.3         772.4         320.4           5.6         859.8         261.2         37.0         73.2         814.5         280.6         35.1         66.0         768.7         300.0         33.1         59.1         745.3         310.1         32.1         55.7         721.5         320.4           4.9         9.9         4.2         252.7         265.2         606.5         26.1         239.6         285.1         575.1         23.6         226.3         305.3         543.2         211.1         219.5         315.7         526.9         19.9         212.6         326.4           4.9         9.5         27.0         265.2         38.3         78.0         842.8         825.1         558.2         24.4         230.4         308.0         552.9         21.9         223.5         318.6         536.5         20.6         216.6         329.5           4.2         271.2         242.2         267.3         38.9         80.6         257.6         287.5	31.2 5 527.1 1	527.1																				
6260 B         859.8         261.2         37.0         73.2         814.5         280.6         35.1         66.0         768.7         300.0         33.1         59.1         745.3         310.1         32.1         55.7         721.5         320.4           6260 B         44         252.7         265.2         606.5         26.1         239.6         285.1         575.1         23.6         226.3         305.3         543.2         21.1         219.5         315.7         526.9         19.9         212.6         326.4           48         257.0         267.3         616.9         27.0         243.8         287.5         585.2         24.4         230.4         308.0         552.9         21.9         223.5         318.6         536.5         20.6         216.6         329.5           7.2         904.0         267.3         38.9         80.6         857.6         287.5         36.9         72.9         240.0         30.0         258.2         21.9         223.5         318.6         536.5         20.6         21.7         329.6           48         271.8         274.2         41.1         89.7         908.6         295.5         39.1         81.4         860.4<	33.3 5		326.2	772.4	63.3		315.1	797.2	67.1	35.4	304.5	821.6	74.8	37.4	284.1	869.5	82.7	39.5	264.3	916.4		
6260 B         6.7         888.8         265.2         38.3         78.0         842.8         285.1         36.3         70.5         796.0         305.3         34.3         63.2         77.2.1         315.7         33.2         59.6         747.8         326.4           9.9         45         257.0         267.3         616.9         27.0         243.8         287.5         585.2         24.4         290.4         308.0         552.9         21.9         223.5         318.6         536.5         20.6         216.6         237.5           48         271.8         274.2         652.2         30.0         258.4         295.5         620.1         27.2         244.6         317.4         587.1         24.5         237.6         328.7         570.4         23.2         230.6         340.5           8.9         955.7         274.2         41.1         89.7         908.6         295.5         39.1         81.4         80.4         317.4         370.7         73.3         83.8         38.7         570.4         23.2         230.6         348.0           42         255.6         281.5         33.7         79.7         851.8         301.7         36.7         71.9	31.1 5	31.1	320.4	721.5	55.7	32.1	310.1	745.3	59.1	33.1	300.0	768.7	66.0	35.1	280.6	814.5		37.0	261.2		5.6	
45         257.0         267.3         616.9         27.0         243.8         287.5         585.2         24.4         230.4         308.0         552.9         21.9         223.5         318.6         536.5         20.6         216.6         329.5           48         271.8         274.2         652.2         30.0         258.4         295.5         620.1         272.2         244.6         317.4         587.1         24.5         237.6         328.7         570.4         23.2         230.6         340.5           8.9         955.7         274.2         41.1         89.7         908.6         295.5         39.1         81.4         860.4         317.4         37.0         73.3         835.8         328.7         560.0         69.3         810.9         340.5           4.2         255.6         281.5         613.4         26.7         242.2         301.7         36.7         71.9         804.1         322.2         34.6         64.4         779.6         332.8         33.6         60.7         754.5         343.7           5.6         898.9         281.5         38.7         79.7         851.8         301.7         36.7         71.9         804.1         322.2<		510.3 32.2																				6260 B
48 271.8 274.2 652.2 30.0 258.4 295.5 620.1 27.2 244.6 317.4 587.1 24.5 237.6 328.7 570.4 23.2 230.6 340.5 25.5 25.5 27.5 274.2 41.1 89.7 90.6 295.5 39.1 81.4 80.4 317.4 37.0 73.3 835.8 328.7 36.0 69.3 810.9 340.5 25.6 255.6 281.5 613.4 26.7 242.2 301.7 581.3 24.1 228.6 322.2 548.7 21.5 221.7 332.8 532.0 20.3 214.5 343.7 25.6 898.9 281.5 38.7 79.7 851.8 301.7 36.7 71.9 804.1 322.2 34.6 64.4 779.6 332.8 33.6 60.7 754.5 343.7 24.4 264.0 286.1 633.6 28.4 250.4 306.9 601.0 25.6 236.6 328.1 567.7 23.0 229.4 339.0 550.7 21.7 222.1 350.3 28.1 26.7 26.8 26.8 28.1 40.0 84.9 880.7 306.9 37.9 76.7 832.0 328.1 35.8 68.7 806.9 339.0 34.7 64.8 81.3 350.3 28.1 26.1 26.2 26.2 26.2 26.2 26.2 26.2 26	519.8	519.8	329.5	216.6	20.6	536.5	318.6	223.5	21.9	552.9	308.0	230.4	24.4	585.2	287.5	243.8	27.0	616.9	267.3	257.0	45	
8.9         955.7         274.2         41.1         89.7         908.6         295.5         39.1         81.4         860.4         317.4         37.0         73.3         835.8         32.8.7         36.0         69.3         810.9         340.5           6.6         98.9         281.5         613.4         26.7         242.2         301.7         36.7         71.9         804.1         322.2         548.7         21.5         221.7         332.8         332.0         20.3         214.5         343.7           6270 B         6.6         98.9         281.5         38.7         79.7         851.8         301.7         36.7         71.9         804.1         322.2         34.6         64.4         77.9         632.8         33.6         66.7         76.7         83.0         76.7         832.0         328.1         567.7         23.0         229.4         339.0         550.7         21.7         222.1         350.3           4.7         28.8         28.6         1.8         4.0         84.9         89.7         309.5         611.2         26.5         230.0         328.1         357.0         23.3         540.3         224.2         236.1         333.1         36.4	32.8 <u>5</u> 553.3 2	32.8 553.3																				
6270 B         988 9         281.5         38.7         79.7         851.8         301.7         36.7         71.9         804.1         322.2         34.6         64.4         77.9         332.8         33.6         60.7         754.5         343.7           6270 B         44         264.0         286.1         633.6         28.4         250.4         306.9         601.0         25.6         236.6         328.1         567.7         23.0         229.4         339.0         550.7         21.7         222.1         350.3           9.7         45         268.4         288.4         644.1         29.3         254.7         309.5         611.2         26.5         240.7         331.1         577.7         23.8         233.5         342.3         560.4         22.4         226.1         353.8           7.2         943.9         288.4         40.6         87.6         895.7         309.5         38.6         79.2         843.1         32.1         34.7         35.8         35.8         32.2         255.0         341.5         612.0         26.6         247.7         353.5         594.5         25.1         240.2         365.9         48.9         995.8         296.1         42	34.9 6	34.9	340.5	810.9	69.3	36.0	328.7	835.8	73.3	37.0	317.4	860.4	81.4	39.1	295.5	908.6	89.7	41.1	274.2	955.7	8.9	
6270 B         44         264.0         286.1         633.6         28.4         250.4         306.9         601.0         25.6         236.6         238.1         567.7         23.0         229.4         339.0         550.7         21.7         222.1         350.3           9.7         45         268.4         288.4         40.0         84.9         89.7         309.5         611.2         26.5         240.7         331.1         577.7         23.8         233.5         342.3         560.4         22.4         226.1         353.8           4.8         283.1         296.1         679.5         32.5         269.3         318.5         646.2         29.5         255.0         341.5         612.0         26.6         247.7         353.5         594.5         25.1         240.7         353.1         36.4         71.1         821.2         342.3         35.4         670.0         795.3         353.8           4.8         283.1         296.1         679.5         32.5         269.3         318.5         646.2         29.5         255.0         341.5         612.0         26.6         247.7         353.5         594.5         25.1         240.2         365.9         36.9 <t< td=""><td></td><td>514.9 32.5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>		514.9 32.5																				
9.7	533.1 2	533.1 33.6	350.3	222.1	21.7	550.7	339.0	229.4	23.0	567.7	328.1	236.6	25.6	601.0	306.9	250.4	28.4	633.6	286.1	264.0	44	6270 P
7.2         943.9         288.4         40.6         87.6         895.7         309.5         38.6         79.2         846.5         331.1         36.4         71.1         821.2         342.3         35.4         67.0         795.3         353.8           8.9         995.8         296.1         679.5         32.5         269.3         318.5         646.2         29.5         255.0         341.5         36.2         26.6         247.7         353.5         594.5         25.1         240.2         365.9           8.9         995.8         296.1         42.9         97.1         947.0         318.5         640.2         29.5         255.0         341.5         38.6         79.4         871.1         353.5         37.5         75.1         847.7         365.9           42         26.3         301.8         639.2         28.9         252.5         322.9         606.0         26.1         238.4         344.4         572.1         23.3         231.1         355.5         554.6         22.0         223.5         366.9           48         42.9         301.8         40.3         888.0         322.9         362.0         77.9         834.4         344.4         572.1 <td>542.7 2</td> <td>542.7</td> <td>353.8</td> <td>226.1</td> <td>22.4</td> <td>560.4</td> <td>342.3</td> <td>233.5</td> <td>23.8</td> <td>577.7</td> <td>331.1</td> <td>240.7</td> <td>26.5</td> <td>611.2</td> <td>309.5</td> <td>254.7</td> <td>29.3</td> <td>644.1</td> <td>288.4</td> <td>268.4</td> <td>45</td> <td></td>	542.7 2	542.7	353.8	226.1	22.4	560.4	342.3	233.5	23.8	577.7	331.1	240.7	26.5	611.2	309.5	254.7	29.3	644.1	288.4	268.4	45	
8.9         995.8         296.1         42.9         97.1         947.0         318.5         40.8         88.1         896.9         341.5         38.6         79.4         871.1         353.5         37.5         75.1         844.7         365.9           42         266.3         301.8         639.2         28.9         252.5         322.9         606.0         26.1         238.4         344.4         572.1         23.3         231.1         355.5         554.6         22.0         223.5         366.9           5.6         936.7         301.8         40.3         88.0         322.9         38.2         77.7         246.4         350.8         591.4         24.9         239.0         362.3         573.5         23.4         231.3         374.2           6280 B         6.7         966.9         306.8         41.6         91.7         917.4         328.6         39.5         82.9         866.7         350.8         591.4         24.9         239.0         362.3         362.3         362.2         70.1         813.3         374.2           9.5         45         279.3         309.4         670.4         31.7         265.2         331.5         636.4         28.6 <td>34.2 6</td> <td>34.2 576.4</td> <td>353.8</td> <td>795.3</td> <td>67.0</td> <td>35.4</td> <td>342.3</td> <td>821.2</td> <td>71.1</td> <td>36.4</td> <td>331.1</td> <td>846.5</td> <td>79.2</td> <td>38.6</td> <td>309.5</td> <td>895.7</td> <td>87.6</td> <td>40.6</td> <td>288.4</td> <td>943.9</td> <td>7.2</td> <td></td>	34.2 6	34.2 576.4	353.8	795.3	67.0	35.4	342.3	821.2	71.1	36.4	331.1	846.5	79.2	38.6	309.5	895.7	87.6	40.6	288.4	943.9	7.2	
6280 B         44         274.9         306.8         659.8         30.7         260.8         322.9         38.2         77.9         838.4         34.4         36.1         69.8         812.7         355.5         35.0         65.7         786.2         366.9           48         274.9         306.8         659.8         30.7         260.8         328.6         626.0         27.7         246.4         350.8         591.4         24.9         239.0         362.3         573.5         23.4         231.3         374.2           45         279.3         309.4         670.4         31.7         265.2         331.5         636.4         286.6         250.6         354.2         601.5         25.7         243.1         365.9         583.4         24.2         235.3         378.0           7.2         982.5         309.4         42.3         94.6         932.6         331.5         40.1         85.6         881.4         354.2         601.5         25.7         243.1         365.9         583.4         24.2         235.3         378.0           48         294.1         317.9         705.8         35.0         279.8         341.4         671.5         317.2         265.	36.4 7	36.4	365.9	844.7	75.1	37.5	353.5	871.1	79.4	38.6	341.5	896.9	88.1	40.8	318.5	947.0	97.1	42.9	296.1	995.8	8.9	
6280 B         44         274.9         306.8         659.8         30.7         260.8         328.6         626.0         27.7         246.4         350.8         591.4         24.9         239.0         362.3         573.5         23.4         231.3         374.2           9.5         45         796.9         306.8         41.6         91.7         917.4         328.6         39.5         82.9         866.7         350.8         37.3         74.3         840.5         362.3         36.2         70.1         813.3         374.2           45         279.3         309.4         670.4         31.7         265.2         331.5         636.4         28.6         250.6         354.2         601.5         25.7         243.1         365.9         583.4         24.2         235.3         378.0           7.2         982.5         309.4         472.4         232.6         331.5         636.4         28.6         250.6         354.2         601.5         257.2         243.1         365.9         583.4         24.2         235.3         378.0           48         294.1         317.9         705.8         35.0         279.8         341.4         671.5         31.7         265.	536.5 2 33.8 6	536.5																				
9.5 45 279.3 309.4 670.4 31.7 265.2 331.5 636.4 28.6 250.6 354.2 601.5 25.7 243.1 365.9 583.4 24.2 235.3 378.0 7.2 982.5 309.4 42.3 94.6 932.6 331.5 40.1 85.6 85.6 881.4 354.2 37.9 76.8 854.9 365.9 36.8 72.4 827.5 378.0 48 294.1 317.9 705.8 35.0 279.8 341.4 671.5 31.7 265.0 365.6 636.0 28.6 257.3 378.2 617.5 27.0 249.4 391.3	555.0 2	555.0	374.2	231.3	23.4	573.5	362.3	239.0	24.9	591.4	350.8	246.4	27.7	626.0	328.6	260.8	30.7	659.8	306.8	274.9	44	40.7
7.2         982.5         309.4         42.3         94.6         932.6         331.5         40.1         85.6         881.4         354.2         37.9         76.8         854.9         365.9         36.8         72.4         827.5         378.0           48         294.1         317.9         705.8         35.0         279.8         341.4         671.5         31.7         265.0         365.6         636.0         28.6         257.3         378.2         617.5         27.0         249.4         391.3	35.0 6 564.7 2	35.0 564.7																				
	35.6 6	35.6	378.0	827.5	72.4	36.8	365.9	854.9	76.8	37.9	354.2	881.4	85.6	40.1	331.5	932.6	94.6	42.3	309.4	982.5	7.2	
<b>8.9</b> 1034.3 317.9 44.5 104.5 984.0 341.4 42.4 94.9 932.0 365.6 40.1 85.5 905.0 378.2 39.0 80.8 877.0 391.3		598.5 37.8																				

Table 4 continued



#### **CAPACITY RATINGS - 60 HZ**

APCD F	kW           276.7         3           276.7         3           285.5         3           289.9         3           1004.0         3           289.9         3           1071.6         3           287.0         3           3009.4         3           302.1         3           302.1         3           302.1         3           320.8         3           31128.4         3           3064.3         3           307.7         3           330.8         3           31163.4         3           309.0         3           31124.9         3           325.4         3	95°F (35°C PI WF WE	m ftwg kPa 2 33.1 3 92.9 1 33.0 9 92.9 1 33.0 6 101.6 2 37.4 1 111.9 8 16.6 49.7 9 17.8 9 17.8 9 17.8 1 18.4 7 55.0 0 20.7 0 20.7 0 6.6 1 11.9 1 19.5 2 55.8 4 18.9 1 19.5 2 55.6 6 6 19.2	Ccap TR kW 262.5 923.0 975.2 270.9 952.8 275.3 968.2 289.9 1019.6 269.8 948.8 279.6 983.3 284.6 1000.8 303.1 1066.1 278.8 980.6 288.9 1016.1 294.0 1034.1 312.9	105°F PI	(40.6°C) WFR USgpm //s 629.9 39.7 650.2 41.0 660.7 41.7 695.8 43.9 647.5 40.8 671.0 42.3 682.9 43.1 727.5 669.2 44.9 669.2	WPD ftwg kPa 28.1 83.9 29.8 89.2 30.8 92.0 34.0 101.6 14.8 47.3 16.4 48.9 18.5 55.3 15.7 47.0 16.9	Ccap TR kW 247.8 871.5 256.0 990.2 260.2 915.1 274.6 965.7 252.4 887.6 261.9 921.2 266.8 938.2 285.1 1002.7 261.3		Temper   (46.1°C)   WFR   WFR   USgpm   //s   594.7   37.5     614.3   38.8     624.5   38.8     659.0   41.6     605.7   38.2   628.6     39.7   640.2   40.4     40.4   684.2	WPD ftwg kPa 25.1 75.1 26.8 80.0 27.6 82.5 30.6 91.5 13.0 38.8 13.9 41.7 14.4 43.2	Ccap 7R kW 240.2 844.7 248.1 872.7 252.3 887.3 266.5 937.4 243.6 856.6 253.0 889.7 257.7 906.4	PI	(48.9°C) WFR USgpm /s 576.4 595.5 37.6 605.5 38.2 639.7 40.4 584.6 36.9 607.1 38.3 618.5	WPD ftwg kPa 23.7 70.8 25.2 75.3 26.0 77.8 28.9 86.4 12.1 36.2 13.0 39.0 13.5 40.4	Ccap TR kW 231.9 815.5 239.3 841.5 243.1 855.0 256.1 900.8 234.6 825.2 243.8 857.6 248.5 874.0	125°F PI	(51.7°C) WFR USgpm //s 556.5 35.1 574.3 36.2 583.4 36.8 614.7 38.8 614.7 38.8 563.1 35.5 585.2 36.9 996.4 37.6	WPD ftwg kPa 22.1 66.2 23.5 70.3 24.2 72.4 26.8 80.1 11.3 33.7 12.1 36.3 12.6 37.6
APCD FERR 2 2 5.6 9 44 2 2 5.6 10 8 9.7 45 3 8.9 17 45 3 8.9 17 45 3 8.9 17 45 3 8.9 17 45 3 8.9 17 45 3 8.9 17 45 3 8.9 17 45 3 8.9 17 45 3 8.9 17 45 3 8.9 17 45 3 8.9 17 45 3 8.9 17 45 3 8.9 17 45 3 8.9 17 45 3 8.9 17 46 18 18 18 18 18 18 18 18 18 18 18 18 18	7R  kW  2276.7  3973.3  3973.3  3973.3  3085.5  31019.7  3071.6  3287.0  3021.7  302.1  302.1  302.1  302.1  302.1  302.1  306.4  3077.7  3077	kW         USg,           kW         USg,           kW         I/A           kW         I/A           kW         I/A           kW         I/A           kW         I/A           kW         I/A           k227.5         688           k327.5         688           k330.3         699           k3330.3         4393           k339.6         46           k309.8         688           k315.6         712           k115.6         45           k128.8         77           k28.8         48           k222.5         44           k222.5         44           k331.3         74           k41.8         70           k42.8         83           k52.8         84	m ftwg kPa 2 33.1 3 92.9 1 33.0 9 92.9 1 33.0 6 101.6 2 37.4 1 111.9 8 16.6 49.7 9 17.8 9 17.8 9 17.8 1 18.4 7 55.0 0 20.7 0 20.7 0 6.6 1 11.9 1 19.5 2 55.8 4 18.9 1 19.5 2 55.6 6 6 19.2	7R kW 262.5 923.0 270.9 952.8 275.3 968.2 289.9 1019.6 269.8 948.8 279.6 303.1 1066.1 278.8 988.9 1016.1 278.8 988.9 1016.1 1019.6 1019.	kW kW 344.0 350.2 350.2 353.4 364.1 330.0 336.5 336.5 336.5 339.7 351.5 351.5 351.6 350.6 3	USgpm //s 629.9 629.9 650.2 41.0 660.7 41.7 695.8 43.9 647.5 40.8 671.0 42.3 682.9 43.1 727.5 669.2 42.2 693.4 43.7	### Reserved in the content of the c	7R kW 247.8 871.5 256.0 900.2 260.2 915.1 274.6 965.7 252.4 887.6 261.9 921.2 266.8 938.2 1002.7 261.3	kW 366.5 366.5 373.5 377.2 377.2 389.6 389.6 350.3 350.3 357.6 361.2 361.2	USgpm //s 594.7 37.5 614.3 38.8 624.5 39.4 659.0 41.6 605.7 38.2 628.6 39.7 640.2 40.4	ftwg kPa 25.1 75.1 26.8 80.0 27.6 82.5 30.6 91.5 13.0 38.8 13.9 41.7 14.4	7R kW 240.2 844.7 248.1 872.7 252.3 887.3 266.5 937.4 243.6 856.6 253.0 889.7 257.7	kW 378.1 378.1 385.6 385.6 389.5 389.5 402.8 402.8 402.8 361.0 368.7 368.7 372.6	USgpm //s 576.4 36.4 595.5 37.6 605.5 38.2 639.7 40.4 584.6 36.9 607.1 38.3 618.5	ftwg kPa 23.7 70.8 25.2 75.3 26.0 77.8 28.9 86.4 12.1 36.2 13.0 39.0 13.5	7R kW 231.9 815.5 239.3 841.5 243.1 855.0 256.1 900.8 234.6 825.2 243.8 857.6 248.5	kW 389.8 389.8 397.5 397.5 401.4 401.4 414.9 414.9 372.2 372.2 380.4 380.4 384.6	USgpm //s 556.5 35.1 574.3 36.2 583.4 36.8 614.7 38.8 6563.1 35.5 585.2 36.9 596.4	ftwg kPa 22.1 66.2 23.5 70.3 24.2 72.4 26.8 80.1 11.3 33.7 12.1 36.3 12.6
6290 B	276.7 3 973.3 3 973.3 3 973.3 3 1004.0 3 289.9 3 1019.7 3 304.7 3 1071.6 3 297.0 3 1094.4 3 3297.0 3 1062.6 3 320.8 3 1128.4 3 296.1 3 1064.7 3 330.6 4 3 1077.7 3 3311.7 3 1096.2 3 3311.7 3 1096.2 3 330.8 3 1128.4 3 1128.4 3 1129.9 3 1128.4 3 1129.9 3 1129.9 3 1129.9 3 1129.9 3 1129.9 3 1129.9 3 1129.9 3 1129.9 3 1129.9 3	222.0 664 222.0 41 222.0 41 227.5 688 227.5 688 237.5 688 237.5 688 238.3 699 238.3 77 238.3 78 248.3 78 248	2 31.1 92.9 1 33.0 2 98.6 9 34.0 1 101.6 2 37.4 1 111.9 9 17.8 5.2 2 37.4 1 18.9 5.2 8 4 18.9 1 19.5 5.2 8 4 18.9 1 19.5 5.4 1 19.5 5.4 1 19.5 5.4 1 19.5 5.4 1 19.5 5.4 1 19.5 5.6 6.6 6 19.2	262.5 923.0 270.9 952.8 275.3 968.2 289.9 1019.6 269.8 279.6 983.3 284.6 1000.8 303.1 1066.1 278.8 980.6 289.9 1016.1 294.0 1034.1 312.9	344.0 344.0 350.2 350.2 353.4 364.1 330.0 330.0 336.5 336.5 339.7 351.5 351.5 344.0 350.6 350.6 353.9	629.9 39.7 650.2 41.0 660.7 41.7 695.8 43.9 647.5 40.8 671.0 42.3 682.9 43.1 727.5 45.9 669.2 42.3	28.1 83.9 29.8 89.2 30.8 92.0 34.0 101.6 14.8 44.1 15.8 47.3 16.4 48.9 18.5 55.3 15.7 47.0	247.8 871.5 256.0 900.2 260.2 915.1 274.6 965.7 252.4 887.6 261.9 921.2 266.8 938.2 285.1 1002.7 261.3	366.5 366.5 373.5 373.5 377.2 377.2 389.6 389.6 350.3 357.6 357.6 361.2 361.2	594.7 37.5 614.3 38.8 624.5 39.4 659.0 41.6 605.7 38.2 628.6 39.7 640.2 40.4	25.1 75.1 26.8 80.0 27.6 82.5 30.6 91.5 13.0 38.8 13.9 41.7	240.2 844.7 248.1 872.7 252.3 887.3 266.5 937.4 243.6 856.6 253.0 889.7 257.7	378.1 378.1 385.6 385.6 389.5 389.5 402.8 402.8 361.0 361.0 368.7 368.7 372.6	576.4 36.4 595.5 37.6 605.5 38.2 639.7 40.4 584.6 36.9 607.1 38.3 618.5	23.7 70.8 25.2 75.3 26.0 77.8 28.9 86.4 12.1 36.2 13.0 39.0	231.9 815.5 239.3 841.5 243.1 855.0 256.1 900.8 234.6 825.2 243.8 857.6 248.5	389.8 389.8 397.5 397.5 401.4 401.4 414.9 372.2 372.2 380.4 380.4 384.6	556.5 35.1 574.3 36.2 583.4 36.8 614.7 38.8 563.1 35.5 585.2 36.9 596.4	22.1 66.2 23.5 70.3 24.2 72.4 26.8 80.1 11.3 33.7 12.1 36.3 12.6
6290 B 9.3 44 2 47 2 48 3 8.9 10 42 2 5.6 10 48 3 8.9 17 42 2 5.6 10 44 2 44 2 45 3 7.2 10 48 3 8.9 17 48 3 8.9 17 48 3 8.9 17 49 2 40 2 40 2 40 3 40 3 40 3 40 3 40 3 40 3 40 3 40 3	285.5 3 1004.0 3 289.9 3 1019.7 3 304.7 3 1019.7 3 304.7 3 10071.6 3 287.0 3 1044.7 3 302.1 3 1042.4 3 302.1 3 1128.4 3 1128.4 3 107.7 3 107.7 3 108.6 3 1128.4 3 107.7 3 1096.2 3 1086.7 3 1086.7 3 1099.2 3 1086.7 3 1099.2 3 1086.7 3 1099.2 3 1086.7 3 1099.2 3 1086.7 3 1099.2 3 1086.7 3 1099.3 3 1086.7 3 1099.3 3 1086.7 3 1099.3 3 1086.7 3	227.5 685 227.5 43 227.5 43 227.5 43 227.5 43 227.5 43 230.3 695 230.3 695 230.3 695 230.3 695 230.3 695 230.3 695 230.3 695 230.3 695 230.3 695 230.3 695 230.3 695 230.3 695 230.9 695 2	1 33.0 2 98.6 9 34.0 1 101.6 2 37.4 1 111.9 8 16.6 6 49.7 9 17.8 9 55.0 0 20.7 6 61.8 6 17.7 6 61.8 7 55.5 1 1 19.5 2 55.4 4 18.9 1 19.5 2 55.4 6 6 79.7 6 6 18.6 6 79.7 7 56.6 8 56.5 9 21.9 1 19.5 1 19	270.9 952.8 275.3 968.2 289.9 1019.6 269.8 948.8 279.6 983.3 284.6 1000.8 303.1 1066.1 278.8 980.6 288.9 1016.1 294.1 312.9	350.2 350.2 353.4 353.4 364.1 330.0 330.0 336.5 336.5 339.7 351.5 344.0 350.6 350.6	650.2 41.0 660.7 41.7 695.8 43.9 647.8 671.0 42.3 682.9 43.1 727.5 45.9 669.2 42.2 693.4 43.7	29.8 89.2 30.8 92.0 34.0 101.6 14.8 44.1 15.8 47.3 16.4 48.9 18.5 55.3 15.7 47.0	256.0 900.2 260.2 915.1 274.6 965.7 252.4 887.6 261.9 921.2 266.8 938.2 285.1 1002.7 261.3	373.5 373.5 377.2 377.2 389.6 389.6 350.3 350.3 357.6 357.6 361.2 361.2 374.8	614.3 38.8 624.5 39.4 659.0 41.6 605.7 38.2 628.6 39.7 640.2 40.4	26.8 80.0 27.6 82.5 30.6 91.5 13.0 38.8 13.9 41.7	248.1 872.7 252.3 887.3 266.5 937.4 243.6 856.6 253.0 889.7 257.7	385.6 385.6 389.5 389.5 402.8 402.8 361.0 361.0 368.7 368.7 372.6	595.5 37.6 605.5 38.2 639.7 40.4 584.6 36.9 607.1 38.3 618.5	25.2 75.3 26.0 77.8 28.9 86.4 12.1 36.2 13.0 39.0	239.3 841.5 243.1 855.0 256.1 900.8 234.6 825.2 243.8 857.6 248.5	397.5 397.5 401.4 401.4 414.9 372.2 372.2 380.4 380.4 384.6	574.3 36.2 583.4 36.8 614.7 38.8 563.1 35.5 585.2 36.9 596.4	23.5 70.3 24.2 72.4 26.8 80.1 11.3 33.7 12.1 36.3 12.6
6300 B 9.3	1004.0 3 289.9 3 10019.7 3 304.7 3 304.7 3 3009.4 3 297.0 3 1009.4 3 302.1 3 302.1 3 302.1 3 302.1 3 302.1 3 306.2 6 3 311.7 3 1041.7 3 1041.7 3 105.6 3 106.6 3 306.4 3 306.4 3 306.4 3 306.4 3 306.4 3 306.4 3 306.7 3 307.0 3 308.7 3 309.0 3 311.7 3 325.4 3 325.4 3	330.3 d 95 330.3 d 95 330.3 d 95 330.3 d 95 330.4 d 95 330.9 d 96 46 40 40 40 40 40 40 40 40 40 40	2 98.6 34.0 34.0 9 34.0 9 101.6 62 37.4 111.9 8 16.6 6 6 17.7 6 18.4 1 11.9 1 18.4 1 1 18.4 1 1 18.4 1 1 18.4 1 1 18.4 1 1 18.4 1 1 18.4 1 1 18.4 1 1 18.5 1 1 19.5 1 1 1 19.5 1 1 1 19.5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	952.8 275.3 968.2 289.9 1019.6 269.8 948.8 279.6 983.3 284.6 1000.8 303.1 1066.1 278.8 980.6 288.9 1016.1 294.0 1034.1 312.9	350.2 353.4 353.4 364.1 330.0 330.0 336.5 336.5 339.7 351.5 344.0 350.6 350.6 353.9	41.0 660.7 41.7 695.8 43.9 647.5 40.8 671.0 42.3 682.9 43.1 727.5 45.9 669.2 42.2 693.4 43.7	89.2 30.8 92.0 34.0 101.6 14.8 44.1 15.8 47.3 16.4 48.9 18.5 55.3 15.7 47.0	900.2 260.2 915.1 274.6 965.7 252.4 887.6 261.9 921.2 266.8 938.2 285.1 1002.7 261.3	373.5 377.2 377.2 389.6 389.6 350.3 350.3 357.6 357.6 361.2 361.2	38.8 624.5 39.4 659.0 41.6 605.7 38.2 628.6 39.7 640.2 40.4	80.0 27.6 82.5 30.6 91.5 13.0 38.8 13.9 41.7	872.7 252.3 887.3 266.5 937.4 243.6 856.6 253.0 889.7 257.7	385.6 389.5 389.5 402.8 402.8 361.0 368.7 368.7 372.6	37.6 605.5 38.2 639.7 40.4 584.6 36.9 607.1 38.3 618.5	75.3 26.0 77.8 28.9 86.4 12.1 36.2 13.0 39.0	243.1 855.0 256.1 900.8 234.6 825.2 243.8 857.6 248.5	397.5 401.4 401.4 414.9 414.9 372.2 372.2 380.4 380.4 384.6	36.2 583.4 36.8 614.7 38.8 563.1 35.5 585.2 36.9 596.4	70.3 24.2 72.4 26.8 80.1 11.3 33.7 12.1 36.3 12.6
6300 B 9.7  6310 B 9.6	1019.7 3 304.7 3 1071.6 3 287.0 3 1071.6 3 287.0 3 1009.4 3 2297.0 3 1044.7 3 302.1 3 1062.6 3 320.8 3 1128.4 3 1077.7 3 3006.4 3 1077.7 3 3030.8 3 1163.4 3 309.0 3 1086.7 3 319.9 3 1124.9 3 325.4 3	339.3 43 339.6 46 339.6 46 309.8 688 309.8 43 315.6 712 315.6 712 315.6 45 316.5 45 318.5 45 322.5 710 322.5 44 322.5 710 331.3 748 331.3 748 331.3 748 331.3 748 331.3 77 331.3 748 331.3 77 331.3	7 101.6 2 37.4 1 111.9 8 16.6 6 49.7 9 17.8 9 17.8 9 17.8 9 17.8 9 17.8 9 15.0 0 20.7 7 55.0 0 20.7 6 6 61.8 4 18.9 1 56.5 1 1 19.5 5.2 58.4 9 21.9 9 21.9 9 65.6 6 19.2	968.2 289.9 1019.6 269.8 948.8 279.6 983.3 284.6 1000.8 303.1 1066.1 278.8 980.6 288.9 1016.1 294.0 1034.1 312.9	353.4 364.1 330.0 330.0 336.5 336.5 339.7 351.5 351.5 344.0 350.6 350.6	41.7 695.8 43.9 647.5 40.8 671.0 42.3 682.9 43.1 727.5 45.9 669.2 42.2 693.4 43.7	92.0 34.0 101.6 14.8 44.1 15.8 47.3 16.4 48.9 18.5 55.3 15.7 47.0	915.1 274.6 965.7 252.4 887.6 261.9 921.2 266.8 938.2 285.1 1002.7 261.3	377.2 389.6 389.6 350.3 350.3 357.6 361.2 361.2 374.8	39.4 659.0 41.6 605.7 38.2 628.6 39.7 640.2 40.4	82.5 30.6 91.5 13.0 38.8 13.9 41.7	887.3 266.5 937.4 243.6 856.6 253.0 889.7 257.7	389.5 402.8 402.8 361.0 361.0 368.7 368.7 372.6	38.2 639.7 40.4 584.6 36.9 607.1 38.3 618.5	77.8 28.9 86.4 12.1 36.2 13.0 39.0	256.1 900.8 234.6 825.2 243.8 857.6 248.5	401.4 414.9 414.9 372.2 372.2 380.4 380.4 384.6	36.8 614.7 38.8 563.1 35.5 585.2 36.9 596.4	72.4 26.8 80.1 11.3 33.7 12.1 36.3 12.6
6300 B 9.7  6300 B 9.7  48 48 38.9 11  48 38.9 12 42 2 5.6 10 44 3 6310 B 9.6  6310 B 9.6  6330 B 9.6  6330 B 9.9  6330 B	1071.6 3 287.0 3 1097.1 3 297.0 3 297.0 3 297.0 3 302.1 3 302.1 3 302.1 3 302.8 3 312.8 4 3 304.1 3 306.4 3 306.4 3 307.7 3 3311.7 3 311.7 3 330.8 3 311.7 3 3096.2 3 330.8 3 311.7 3 325.4 3	339.6 468 809.8 688 809.8 688 809.8 438 815.6 712 815.6 45 818.5 72 818.5 72 818.5 45 818.5 4	111.9 8 16.6 5 49.7 9 17.8 0 53.2 1 18.4 7 55.0 0 20.7 6 61.8 6 17.7 8 52.8 4 18.9 1 19.5 2 58.4 9 21.9 6 66 19.2	1019.6 269.8 948.8 279.6 983.3 284.6 1000.8 303.1 1066.1 278.8 980.6 288.9 1016.1 294.0 1034.1 312.9	364.1 330.0 330.0 336.5 336.5 339.7 351.5 351.5 344.0 350.6 350.6 353.9	43.9 647.5 40.8 671.0 42.3 682.9 43.1 727.5 45.9 669.2 42.2 693.4 43.7	101.6 14.8 44.1 15.8 47.3 16.4 48.9 18.5 55.3 15.7 47.0	965.7 252.4 887.6 261.9 921.2 266.8 938.2 285.1 1002.7 261.3	389.6 350.3 350.3 357.6 357.6 361.2 361.2 374.8	41.6 605.7 38.2 628.6 39.7 640.2 40.4	91.5 13.0 38.8 13.9 41.7 14.4	937.4 243.6 856.6 253.0 889.7 257.7	402.8 361.0 361.0 368.7 368.7 372.6	40.4 584.6 36.9 607.1 38.3 618.5	86.4 12.1 36.2 13.0 39.0 13.5	900.8 234.6 825.2 243.8 857.6 248.5	414.9 372.2 372.2 380.4 380.4 384.6	38.8 563.1 35.5 585.2 36.9 596.4	80.1 11.3 33.7 12.1 36.3 12.6
6300 B 9.7 42 6.7 44 21 48 3 8.9 17 42 2 7.2 10 48 3 8.9 17 41 44 3 6310 B 9.6 45 7.2 7.2 48 3 8.9 17 44 44 3 65 65 10 66 7 11 48 3 8.9 17 44 3 66 67 16 67 67 16 67 67 67 67 67 67 67 67 67 67 67 67 67	287.0 3 1009.4 3 297.0 3 1044.7 3 302.1 3 302.1 3 302.8 3 1128.4 3 1041.3 3 307.7 3 311.7 3 307.7 3 311.7 3 309.0 3 309.0 3 309.0 3 309.0 3 319.9 3 31124.9 3 325.4 3	009.8 688 438 438 438 438 438 438 438 4	8 16.6 49.7 9 17.8 1 18.4 7 55.0 0 20.7 6 66.8 18.9 1 19.5 2 58.4 4 15.6 65.6 66 17.7 9 21.9	269.8 948.8 279.6 983.3 284.6 1000.8 303.1 1066.1 278.8 980.6 288.9 1016.1 294.0 1034.1 312.9	330.0 330.0 336.5 336.5 339.7 339.7 351.5 351.5 344.0 350.6 350.6 353.9	647.5 40.8 671.0 42.3 682.9 43.1 727.5 45.9 669.2 42.2 693.4 43.7	14.8 44.1 15.8 47.3 16.4 48.9 18.5 55.3 15.7 47.0	252.4 887.6 261.9 921.2 266.8 938.2 285.1 1002.7 261.3	350.3 350.3 357.6 357.6 361.2 361.2 374.8	605.7 38.2 628.6 39.7 640.2 40.4	13.0 38.8 13.9 41.7	243.6 856.6 253.0 889.7 257.7	361.0 361.0 368.7 368.7 372.6	584.6 36.9 607.1 38.3 618.5	12.1 36.2 13.0 39.0 13.5	234.6 825.2 243.8 857.6 248.5	372.2 372.2 380.4 380.4 384.6	563.1 35.5 585.2 36.9 596.4	11.3 33.7 12.1 36.3 12.6
6300 B 9.7 45 3 48 3 8.9 1 42 2 5.6 10 44 3 6310 B 9.6 45 3 7.2 10 48 3 8.9 1 44 3 6.7 1 48 3 8.9 1 45 3 7.2 10 48 3 8.9 1 45 3 6.7 1 46 3 8.9 1 47 3 6.7 1 48 3 8.9 1 49 40 40 40 40 40 4	297.0 3 1044.7 3 302.1 3 302.1 3 302.8 3 3128.4 3 296.1 3 1041.3 3 306.4 3 1077.7 3 311.7 3 311.7 3 306.4 3 31076.2 3 330.8 3 31163.4 3 309.0 3 309.0 3 325.4 3	315.6 7123 715.6 7123 715.6 45 715.6 45 715.6 45 715.7 725 715.7 725 7	9 17.8 3 53.2 1 18.4 7 55.0 20.7 6 61.8 6 17.7 8 52.8 4 18.9 1 56.5 1 19.5 2 2 20.7 65.6 6 19.2 6 65.6 6 19.2	279.6 983.3 284.6 1000.8 303.1 1066.1 278.8 980.6 288.9 1016.1 294.0 1034.1 312.9	336.5 336.5 339.7 351.5 351.5 344.0 350.6 350.6 353.9	671.0 42.3 682.9 43.1 727.5 45.9 669.2 42.2 693.4 43.7	15.8 47.3 16.4 48.9 18.5 55.3 15.7 47.0	261.9 921.2 266.8 938.2 285.1 1002.7 261.3	357.6 357.6 361.2 361.2 374.8	628.6 39.7 640.2 40.4	13.9 41.7 14.4	253.0 889.7 257.7	368.7 368.7 372.6	607.1 38.3 618.5	13.0 39.0 13.5	243.8 857.6 248.5	380.4 380.4 384.6	585.2 36.9 596.4	12.1 36.3 12.6
9.7 45 3 7.2 10 48 3 8.9 17 42 2 5.6 10 44 3 8.9 17 45 3 7.2 10 48 3 8.9 17 44 3 6330 B 6330 B 9.9 45 3	302.1 3 1062.6 3 320.8 3 1128.4 3 296.1 3 1041.3 3 306.4 3 1077.7 3 31096.2 3 330.8 3 31163.4 3 309.0 3 309.0 3 319.9 3 1124.9 3 325.4 3	318.5 725 318.5 45 328.8 77C 328.8 48 322.5 71C 322.5 44 322.5 44 331.3 748 331.3 748 341.3 748 341.3 748 341.3 748 341.3 748 341.3 748 341.	1 18.4 7 55.0 0 20.7 6 61.8 6 17.7 8 52.8 1 19.5 2 58.4 9 21.9 1 65.6 6 19.2	284.6 1000.8 303.1 1066.1 278.8 980.6 288.9 1016.1 294.0 1034.1 312.9	339.7 339.7 351.5 351.5 344.0 350.6 350.6 353.9	682.9 43.1 727.5 45.9 669.2 42.2 693.4 43.7	16.4 48.9 18.5 55.3 15.7 47.0	266.8 938.2 285.1 1002.7 261.3	361.2 361.2 374.8	640.2 40.4	14.4	257.7	372.6	618.5	13.5	248.5	384.6	596.4	12.6
48 3 8.9 1 42 2 5.6 16 44 3 6.7 16 48 3 8.9 1 48 3 8.9 1 42 3 5.6 10 48 3 8.9 1 42 3 5.6 10 48 6.7 10 40 6.7 10 41 3 5.6 10 42 3 5.6 10 45 3 5.6 10 48 3 5.6 10 49 40 40 40 40 40 40 40 40 40	320.8 3 320.8 3 1128.4 3 296.1 3 1041.3 3 306.4 3 1077.7 3 311.7 3 311.7 3 31096.2 3 330.8 3 1163.4 3 309.0 3 3119.9 3 31124.9 3 3325.4 3	328.8 770 328.8 48 322.5 710 322.5 44 322.5 44 331.3 748 331.3 47 341.8 793 341.8 50 330.0 741 330.0 745	0 20.7 6 61.8 6 17.7 8 52.8 4 18.9 1 56.5 1 19.5 2 58.4 9 21.9 1 65.6 6 19.2	303.1 1066.1 278.8 980.6 288.9 1016.1 294.0 1034.1 312.9	351.5 351.5 344.0 344.0 350.6 350.6 353.9	727.5 45.9 669.2 42.2 693.4 43.7	18.5 55.3 15.7 47.0	285.1 1002.7 261.3	374.8		43.2	906.4	070 /	20.0	40.4	271 N	384.6	37.6	37.6
8.9 17 42 2 5.6 10 44 3 9.6 45 3 7.2 17 48 3 8.9 17 42 3 5.6 10 44 3 5.6 10 6330 B 9.9 45 3	1128.4 3 296.1 3 1041.3 3 306.4 3 1077.7 3 311.7 3 1096.2 3 330.8 3 1163.4 3 309.0 3 1124.9 3 325.4 3	328.8         48           322.5         710           322.5         44           322.5         44           328.4         735           331.3         748           331.3         47           341.8         793           344.8         50           330.0         741           330.0         46           335.7         767	6 61.8 6 17.7 8 52.8 4 18.9 1 56.5 1 19.5 2 58.4 9 21.9 1 65.6 6 19.2	1066.1 278.8 980.6 288.9 1016.1 294.0 1034.1 312.9	351.5 344.0 344.0 350.6 350.6 353.9	45.9 669.2 42.2 693.4 43.7	55.3 15.7 47.0	1002.7 261.3			16.4	275.8	372.6 387.2	39.0 662.0	15.4	266.4	400.4	639.3	14.4
6310 B 9.6 9.6 44 45 3 7.2 10 48 8,9 17 42 3 5,6 10 44 3 6,7 10 44 3 6,9 11 44 3 6,7 10 46 47 10 48 10 49 40 40 40 40 40 40 40 40 40 40	1041.3   3   306.4   3   306.4   3   1077.7   3   311.7   3   330.8   3   330.8   3   309.0   3   309.0   3   319.9   3   325.4   3   325.4   3   325.4   3	322.5 44 328.4 735 328.4 46 331.3 748 331.3 47 341.8 793 341.8 50 330.0 741 330.0 46 335.7 767	3 52.8 4 18.9 4 56.5 1 19.5 58.4 9 21.9 65.6 6 19.2	980.6 288.9 1016.1 294.0 1034.1 312.9	344.0 350.6 350.6 353.9	42.2 693.4 43.7	47.0		2/50	43.2	49.1	970.2	387.2	41.8	46.1	936.9	400.4	40.3	43.1
6310 B 9.6 45 7.2 10 48 8.9 11 42 3 5.6 6330 B 9.9 44 3 6.7 3 45 45 45 45 46 47 48 48 48 48 48 48 48 48 48 48	1077.7 3 311.7 3 1096.2 3 3330.8 3 1163.4 3 309.0 3 1086.7 3 319.9 3 1124.9 3 325.4 3	328.4 46 331.3 748 331.3 47 341.8 793 341.8 50 330.0 741 330.0 46 335.7 767	56.5 1 19.5 2 58.4 9 21.9 65.6 6 19.2	1016.1 294.0 1034.1 312.9	350.6 353.9	43.7		919.2	365.8 365.8	627.2 39.6	13.9 41.5	252.5 888.0	377.2 377.2	605.9 38.2	13.0 38.8	243.5 856.3	389.2 389.2	584.4 36.9	12.1 36.2
9.6	1096.2 3 330.8 3 1163.4 3 309.0 3 1086.7 3 319.9 3 1124.9 3	331.3 47 341.8 793 341.8 50 330.0 741 330.0 46 335.7 767	2 58.4 9 21.9 65.6 6 19.2	1034.1 312.9		705.7	50.4	271.1 953.6	373.3 373.3	650.7 41.1	14.9 44.6	262.1 921.8	385.2 385.2	629.0 39.7	14.0 41.7	252.9 889.5	397.7 397.7	607.0 38.3	13.0 38.9
48 8.9 11 42 3 5.6 10 44 44 6.7 11 9.9 45 3	330.8 3 1163.4 3 309.0 3 1086.7 3 319.9 3 1124.9 3 325.4 3	341.8 793 341.8 50 330.0 741 330.0 46 335.7 767	9 21.9 65.6 6 19.2	312.9	000.7	705.7 44.5	17.4 52.1	276.1 971.1	377.0 377.0	662.7 41.8	15.4 46.2	267.0 938.9	389.2 389.2	640.7 40.4	14.5 43.2	257.7 906.3	402.0 402.0	618.4 39.0	13.5 40.4
6330 B 9.9 42 3.6 44 3.1 1.7 1.7 1.7 1.7 1.7 1.7 1.7 1.7 1.7 1	309.0 3 1086.7 3 319.9 3 1124.9 3 325.4 3	330.0 741 330.0 46 335.7 767	6 19.2		365.9	751.0	19.7	294.7	390.9	707.3	17.5	285.4	404.1	685.0	16.5	275.9	418.2	662.1	15.4
6330 B 9.9 45 3	319.9 3 1124.9 3 325.4 3	35.7 767	) F7 4	1100.6 291.6	365.9 353.1	47.4 699.9	58.9 17.2	1036.5 274.1	390.9 376.4	44.6 657.8	52.4 15.2	1003.7 265.1	404.1 388.5	43.2 636.3	49.2 14.3	970.3 256.1	418.2 401.0	41.8 614.6	46.1 13.3
6330 B 6.7 11 9.9 45 3	1124.9 3 325.4 3			1025.7 302.2	353.1 359.5	44.2 725.3	51.3 18.4	963.9 284.3	376.4 383.7	41.5 682.3	45.5 16.3	932.5 275.2	388.5 396.2	40.1 660.4	42.7 15.3	900.6 265.9	401.0 409.3	38.8 638.3	39.9 14.4
		335.7 48 338.5 780	61.4	1062.9 307.6	359.5 362.7	45.8 738.2	55.0 19.0	999.9 289.5	383.7 387.3	43.0 694.8	48.8	967.8 280.3	396.2 400.1	41.7 672.7	45.9 15.9	935.3 270.9	409.3 413.5	40.3 650.2	42.9 14.9
		338.5 49	63.5	1081.7	362.7	46.6	56.9	1018.1	387.3	43.8	50.6	985.7	400.1	42.4	47.5	952.8	413.5	41.0	44.5
		348.4 828 348.4 52		327.1 1150.3	374.2 374.2	784.9 49.5	21.5 64.1	308.7 1085.6	400.6 400.6	740.8 46.7	19.2 57.3	299.3 1052.6	414.5 414.5	718.3 45.3	18.1 54.0	289.8 1019.1	429.0 429.0	695.4 43.9	17.0 50.7
42 3	321.3	337.9 771 337.9 48	1 20.7	303.9 1068.7	362.5 362.5	729.3 46.0	18.6 55.6	286.2 1006.7	387.2 387.2	686.9 43.3	16.6 49.5	277.3 975.1	400.0 400.0	665.4 42.0	15.6 46.5	268.2 943.1	413.1 413.1	643.6 40.6	14.6 43.6
44 3	332.6 3	343.3 798	3 22.2	314.9	368.7	755.7	19.9	296.9	394.3	712.5	17.8	287.7	407.6	690.5	16.7	278.4	421.3	668.2	15.7
10.1 45 3	338.4 3	343.3 50 346.1 812	1 22.9	1107.4 320.5	368.7 371.9	47.7 769.1	59.6 20.6	1044.1 302.3	394.3 397.9	45.0 725.4	53.1 18.4	1011.9 293.0	407.6 411.4	43.6 703.2	50.0 17.3	979.1 283.6	421.3 425.4	42.2 680.6	46.9 16.3
		346.1 51 355.5 860		1127.1 340.5	371.9 382.8	48.5 817.2	61.6 23.2	1063.0 322.0	397.9 410.7	45.8 772.7	55.0 20.8	1030.5 312.5	411.4 425.3	750.0	51.8 19.6	997.4 303.0	425.4 440.4	42.9 727.1	48.6 18.5
8.9 12	1261.3	355.5 54 350.3 792	76.7	1197.5 312.7	382.8 376.3	51.6 750.5	69.4 19.7	1132.3 295.1	410.7 402.5	48.8 708.2	62.2 17.6	1099.1 286.1	425.3 416.0	47.3 686.6	58.7 16.5	1065.5 276.9	440.4 429.9	45.9 664.6	55.3 15.5
5.6 11	1161.0	350.3 50	65.3	1099.8	376.3	47.3	58.8	1037.8	402.5	44.7	52.5	1006.1	416.0	43.3	49.4	973.9	429.9	41.9	46.4
		355.9 820 355.9 51	69.9	324.0 1139.5	382.7 382.7	777.6 49.1	21.1 63.0	305.9 1076.0	409.8 409.8	734.3 46.3	18.8 56.3	296.7 1043.6	423.8 423.8	712.1 44.9	17.8 53.1	287.4 1010.7	438.3 438.3	689.7 43.5	16.7 49.9
		358.7 834 358.7 52		329.7 1159.6	385.9 385.9	791.3 49.9	21.8 65.2	311.4 1095.3	413.5 413.5	747.5 47.2	19.5 58.3	302.1 1062.6	427.7 427.7	725.1 45.7	18.4 55.0	292.7 1029.3	442.4 442.4	702.4 44.3	17.3 51.7
	368.2 3	368.2 883 368.2 55		350.0 1230.9	397.0 397.0	840.0 53.0	24.5 73.2	331.4 1165.4	426.5 426.5	795.2 50.2	22.0 65.8	321.9 1132.0	441.8 441.8	772.5 48.7	20.8 62.2	312.2 1098.2	457.7 457.7	749.4 47.3	19.6 58.6
42 3	341.5 3	370.9 819	5 23.3	323.5	397.8	776.4	21.0	305.3	425.0	732.8	18.8	296.0	439.0	710.4	17.7	286.5	453.5	687.5	16.6
		370.9 51 377.1 847		1137.8 335.0	397.8 404.8	49.0 804.0	62.8 22.5	1073.8 316.4	425.0 432.9	46.2 759.3	56.1 20.1	1041.0 306.8	439.0 447.5	736.4	52.8 18.9	1007.5 297.1	453.5 462.5	43.4 712.9	49.6 17.8
		377.1 53 380.1 862		1178.2 340.8	404.8 408.3	50.7 817.9	67.2 23.2	1112.7 322.0	432.9 436.9	47.9 772.7	60.1 20.8	1079.1 312.3	447.5 451.8	46.5 749.5	56.6 19.6	1044.8 302.4	462.5 467.1	45.0 725.8	53.2 18.4
7.2 12	1263.6	880.1 54	77.0	1198.6	408.3	51.6	69.5	1132.3	436.9	48.7	62.2	1098.4	451.8	47.3	58.6	1063.6	467.1	45.8	55.1
8.9 13	1335.9	390.5 911 390.5 57	85.8	361.1 1270.1	420.4 420.4	866.7 54.7	26.0 77.8	341.9 1202.6	451.1 451.1	820.7 51.8	23.4 69.9	332.1 1168.0	467.0 467.0	797.1 50.3	22.1 66.1	322.1 1132.7	483.6 483.6	772.9 48.8	20.8 62.2
		891.4 846 891.4 53		334.1 1174.9	419.2 419.2	801.8 50.6	22.4 66.8	315.3 1109.0	447.4 447.4	756.8 47.7	20.0 59.7	305.7 1075.0	462.0 462.0	733.6 46.3	18.8 56.2	295.7 1040.0	477.0 477.0	709.7 44.8	17.6 52.7
		398.1 874 398.1 55		345.7 1215.8	426.8 426.8	829.7 52.3	23.9 71.5	326.5 1148.4	456.0 456.0	783.7 49.4	21.4 63.9	316.6 1113.6	471.2 471.2	759.9 47.9	20.1 60.2	306.4 1077.8	486.8 486.8	735.5 46.4	18.9 56.5
9.7 45 3	370.6 4	101.5 889	4 27.4	351.6	430.6	843.8	24.7	332.2	460.4	797.3	22.1	322.2	475.8	773.2	20.8	311.9	491.7	748.5	19.6
48 3	391.2 4	101.5 56 112.7 938	8 30.4	1236.6 372.0	430.6 443.7	53.2 892.7	73.8 27.6	1168.3 352.2	460.4 475.6	50.3 845.4	66.1 24.8	1133.1 342.0	475.8 492.2	48.8 820.9	62.3 23.4	1096.9 331.5	491.7 509.4	47.2 795.5	58.5 22.0
		112.7 59 111.9 871		1308.2 344.4	443.7 440.6	56.3 826.5	82.4 23.7	1238.8 325.1	475.6 469.8	53.3 780.2	74.1 21.2	1202.9 315.1	492.2 484.9	51.8 756.1	70.0 20.0	1165.8 304.7	509.4 500.5	50.2 731.3	65.8 18.7
5.6 12	1277.6 4	111.9 55	78.7	1211.2	440.6	52.1	70.9	1143.3	469.8	49.2	63.4	1108.1	484.9	47.7	59.6	1071.6	500.5	46.1	55.9
6380 B 6.7 13	1320.4 4	119.2 901 119.2 56	83.9	356.2 1252.6	448.8 448.8	854.8 53.9	25.3 75.7	336.4 1183.2	479.1 479.1	807.4 50.9	22.7 67.8	326.2 1147.1	494.8 494.8	782.8 49.4	21.3 63.8	315.5 1109.7	511.0 511.0	757.3 47.8	20.0 59.8
		122.8 915 122.8 57		362.1 1273.6	452.9 452.9	869.1 54.8	26.2 78.2	342.2 1203.4	483.8 483.8	821.2 51.8	23.4 70.0	331.8 1166.9	499.8 499.8	796.3 50.2	22.1 66.0	321.0 1129.1	516.3 516.3	770.5 48.6	20.7 61.9
		134.8 965 134.8 60		382.5 1345.3	466.9 466.9	918.1 57.9	29.1 87.0	362.2 1273.9	500.0 500.0	869.3 54.8	26.2 78.3	351.6 1236.7	517.2 517.2	843.9 53.2	24.7 73.9	340.7 1198.2	535.1 535.1	817.7 51.6	23.2 69.5
42 3	373.8 4	32.4 897	1 27.8	354.4	461.9	850.6	25.1	334.6	492.2	803.0	22.4	324.2	507.9	778.1	21.1	312.8	523.5	750.7	19.7
44 3	386.1 4	132.4 56 140.1 926	7 29.6	1246.5 366.4	461.9 470.7	53.7 879.3	75.0 26.8	1176.7 346.0	492.2 502.1	50.7 830.5	67.0 23.9	1140.2 335.4	507.9 518.4	49.1 805.0	63.1 22.5	1100.1 323.1	523.5 534.2	47.4 775.5	58.8 21.0
		140.1 58 144.1 941		1288.5 372.4	470.7 475.2	55.5 893.8	80.0 27.6	1217.0 351.9	502.1 507.2	52.4 844.4	71.6 24.7	1179.6 341.1	518.4 523.7	50.8 818.6	67.4 23.3	1136.4 328.3	534.2 539.5	48.9 787.8	62.6 21.6
7.2 13	1379.9 4	144.1 59 156.9 991	91.4	1309.8	475.2	56.4 942.7	82.6	1237.5	507.2	53.3	73.9	1199.6	523.7	51.6	69.6	1154.5	539.5	49.7	64.6
		156.9 991 156.9 62		392.8 1381.5	490.1 490.1	942.7 59.5	30.7 91.6	371.9 1308.0	524.4 524.4	892.6 56.3	27.6 82.4	360.9 1269.4	542.2 542.2	866.3 54.7	26.0 77.7	346.3 1218.1	558.3 558.3	831.2 52.4	24.0 71.7

Table 4 ends



### **Capacity Correction & Limits**

ALT	ITUDE CORR	ECTION FAC	TORS
Altit	ude	Capacity	Power
Feet	Meter	Multiplier	Multiplier
0	0	1	1
2000	610	0.99	1.01
4000	1219	0.98	1.02
6000	1829	0.97	1.03
8000	2438	0.96	1.04
10000	3048	0.95	1.05
			Table 5

C	OOLER FOU	LING FACTO	RS
English	SI	Capacity Multiplier	Power Multiplier
0.0001	0.018	1.00	1.00
0.00025	0.044	0.99	1.00
0.00050	0.088	0.98	0.99
0.00100	0.176	0.95	0.98
0.00200	0.352	0.90	0.96
	•		Table 6

RANGE CORRECTION FACTORS					
Rai	nge	Capacity	Power		
٥F	° C	Multiplier	Multiplier		
8	4.4	0.995	0.998		
10	5.6	1.000	1.000		
12	6.7	1.005	1.002		
14	7.8	1.010	1.004		
16	8.9	1.015	1.006		
Table 7					

Tube Material / Fin Material	Capacity Multiplier	Power Multiplier
Copper / Copper	1.010	0.992
Copper / Precoated	0.995	1.001
		T-1-1- 0

FIN MATERIAL CORRECTION FACTORS

Table 8

Unit ratings are based on sea level altitude, copper tube/aluminum fins condenser, ARI 550-590 standard of 10°F (5.5°C) range and 0.0001 ff.h°F (0.018m².°C/kW) fouling factor. For higher altitude, the use of alternative condenser material, other range and fouling factor, apply the above factors.

### **Operation Limits**

TEMPERATURE RANGE LIMITS			
LIMIT	٥F	° C	6
Minimum Range Limit	8	4.4	]e
Maximum Range Limit	16	8.9	Tak

EVAPORATOR TEMPERATURE LIMITS			
LIMIT	٥F	° C	
Maximum leaving chilled water temperature	60	15.6	0
(1) Maximum entering chilled water tempretaure		24.4	_ e
(2) Minumum leaving chilled water temperature	40	4.4	Tab

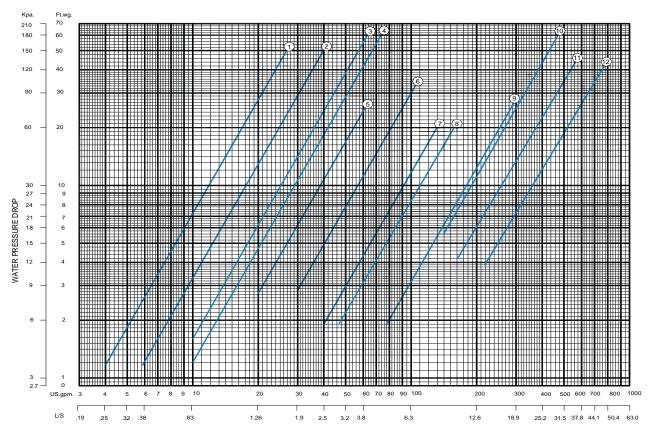
EVAPORATOR PRESSURE LIMITS						
PRESSURE			REFRIGERANT		WATER	
PRESSURE		psig	kPa	psig	kPa	
Max Working	APCH 5004A / 6005A - APCD 5009A / 6011A	392	2700	363	2500	
Pressure	APCD 5012A / 6014A - APCD 5340B / 6390B	363	2500	145	1000	
Test Pressure	APCH 5004A / 6005A - APCD 5009A / 6011A	725	5000	725	5000	
1621 F1622016	APCD 5012A / 6014A - APCD 5340B / 6390B	399	2750	207	1430	

CONDENSER PRESSURE LIMITS			
REFRIGERANT PRESSURE	psig	kPa	2
Design Working Pressure	300	2068	ole 1
Test Pressure	450	3100	Tak

- (1) For short periods.
- (2) For lower temperatures, brine solutions to be used. Consult SKM.



### **Evaporator Water Pressure Drop**



**EVAPORATOR WATER FLOW RATE** 

Curve #	Evaporator	APCH / D	Water F	low Rate	
Cui ve #	Lvaporator	AFCIII D	Minimum Usgpm/L/s	Maximum Usgpm/L/s	
1	V25T28	5004 A, 6005 A	4.0 / 0.25	40.0 / 2.52	
2	V25T42	5006 A, 6007 A	4.0 / 0.25	40.0 / 2.52	
3	V8050	5008 A, 6009 A	10.0 / 0.63	75.0 / 4.73	
4	V8058	5009 A, 6011 A	10.0 / 0.63	75.0 / 4.73	
5	1056	5012 A, 6014A, 5017 A, 5018 A,	25.0 / 1.58	55 O / 2 A7	
5	2056	6020 A & 6022 A	23.07 1.30	55.0 / 3.47	
6	1095	5025 A, 6030 A,	30.0 / 1.89	95.0 / 6.0	
O	2095	5022 A, 5024 A, 6025 A & 6028 A	30.07 1.09	90.07 0.0	
7	1120	5030 A 5 040 A & 6035 A 6 050 A	40.0 / 2.52	130.0 / 8.2	
,	2120	5032 A 5 039 A & 6036 A 6 046 A	40.07 2.32	130.07 0.2	
8	1160R	5050 A, 6060 A	50.0 / 3.15	155.0 / 9.78	
9	1235R	5065 A 5 085 A & 6075 A 6 095 A	95.0 / 6.0	255.0 / 16.1	
10	1390	5095 B 5 125 B & 6110 B 6 145 B	160.0 / 10.1	500.0 / 31.55	
11	2460 5135 B 5 170 B & 6155 B 6 195 B		175.0 / 11.04	540.0 / 34.07	
	2460(2 nos.)*	5260 B* 53 40B* & 6300 B* 6 390 B*	175.07 11.04	540.07 54.07	
12	3650	5180 B 5 250 B & 6210 B 6 290 B	210.0 / 13.25	720.0 / 45.42	

Table 13

Note: \* To calculate the water pressure drop for models APCD-5260B-5340B & APCD-6300B-6390B, use curve #11 and HALVE the WFR as the evaporators are connected in parallel.



#### **Selection Procedure**

**APCD** Chillers should be selected with specific Design Considerations, requirements and parameters of the intended application. Care and good engineering should lead to an efficient and cost effective selection. Sample procedures are shown below:

#### Example 1: (IP System)

Select an Air Cooled Package Chiller giving a capacity of 112.0 TR to cool water from 56°F to 44°F at 2000 ft. altitude, 0.00075 fouling factor, power supply 415V/3Ph/50Hz an 115 °F ambient Temperature.

Find compressor power input in KW.

#### Selection:

Apply the following factors to convert the required capacity to tabulated capacity ratings.

	Capacity Mu	ultiplier Power	Multiplier
Range (12 °F) Altitude Fouling Factor	1.005 0.99 0.965	1.	002 01 985
Tabulated rated capacity =		112	
		1.005 x 0.99 x 0.965	
	=	116.7 TR	

Refer to capacity rating 50Hz under 115 °F condenser entering air temperature and select a chiller giving a capacity nearest larger to 116.7 at 44 °F LCWT. Select model APCD 5135B giving a capacity of 119.1 TR and PI = 155.6 kW.

Apply correction factors to the selected unit to find actual capacity and P I.

#### Calculation of Water Flow Rate (WFR)

To calculate the water flow rate to be circulated, use the following:

Determine the pressure drop from chart on Page 23, using 228.8 gpm, pressure drop reading is 7.6 ft. wg.

#### Example 2: (SI System)

Select an Air Cooled Package Chiller giving a capacity of 460.0 kW of refrigeration to cool water from  $14.5^{\circ}\text{C}$  to  $6.7^{\circ}\text{C}$  at 610M altitude, 0.132 fouling factor, power supply 380V/3Ph/ 60Hz and  $40.6 ^{\circ}\text{C}$  ambient Temperature.

Find compressor power input in kW.

#### Selection:

Apply the following factors to convert the required capacity to tabulated capacity ratings.

	Capacity Mul	tiplier Power Multiplier
Range (7.8 °C) Altitude Fouling Factor	1.010 0.99 0.965	1.004 1.01 0.985
Tabulated rated capacity =		460
		1.01 x 0.99 x 0.965
=		476.3 kW

Refer to capacity rating 60Hz under 40.6 °C condenser entering air temperature and select a chiller giving a capacity nearest larger to 476.3 at 6.7 °C LCWT. Select model APCD 6145B giving a capacity of 486.5 kW and PI = 179.5 kW.

Apply correction factors to the selected unit to find actual capacity and P I.

#### Calculation of Water Flow Rate (WFR)

To calculate the water flow rate to be circulated, use the following:

WFR (L/s) = 
$$\frac{\text{C.CAP (kW)} \times 0.239}{\text{Range (°C)}}$$

$$= \frac{469.4 \times 0.239}{7.8} = 14.4 \text{ L/s.}$$

Determine the pressure drop from chart on Page 23, using 14.4 L/s, pressure drop reading is 43.7 kPa.

For more details refer to other specifications and dimensional drawings for the selected model.



### **Capacity Control Steps**

Models APCH / D		Chandard Canacity Chana ()/	Optional Capacity Steps		
Wodels A	APCH/D	Standard Capacity Steps %	CRS 1	CRS 2	
5004A to 8A	6005 A to 9A	100 - 0	-	:	
	6011A to 14A	100 - 0	100 - 67 - 0	-	
5017 A	6020 A	100 - 0	100 - 50 - 0	-	
	6022A to 28A	100 - 50 - 0	100 - 83 - 50 - 33 - 0	-	
5022 A	6025 A	100 - 56 - 0	100 - 85 - 56 - 38 - 0	-	
5025 A	6030 A	100 - 0	100 - 67 - 0	100 - 67 - 33 - 0	
5030 A	6035 A	100 - 0	100 - 67 - 0	100 - 67 - 33 - 0	
5032 A	6036 A	100 - 59 - 0	100 - 86 - 59 - 30 - 0	-	
5034 A	6039 A	100 - 50 - 0	100 - 75 - 50 - 25 - 0	-	
5035 A	6040 A	100 - 0	100 - 75 - 0	100 - 75 - 50 - 0	
5039 A	6046 A	100 - 61 - 0	100 - 81 - 61 - 41 - 0	100 - 81 - 61 - 41 - 20 - 0	
5040 A	6050 A	100 - 0	100 - 75 - 0	100 - 75 - 50 - 0	
5050 A	6060 A	100 - 50 - 0	100 - 83 - 50 - 33 - 0	100 - 83 - 67 - 50 - 33 - 17 - 0	
5065 A	6075 A	100 - 50 - 0	100 - 83 - 50 - 33 - 0	100 - 83 - 67 - 50 - 33 - 17 - 0	
5070 A	6080 A	100 - 54 - 0	100 - 85 - 54 - 40 - 0	100 - 85 - 69 - 54 - 40 - 27 - 0	
5075 A	6085 A	100 - 50 - 0	100 - 88 - 50 - 38 - 0	100 - 88 - 75 - 50 - 38 - 25 - 0	
5080 A	6090 A	100 - 53 - 0	100 - 88 - 53 - 39 - 0	100 - 88 - 76 - 53 - 39 - 26 - 0	
5085 A	6095 A	100 - 50 - 0	100 - 88 - 50 - 38 - 0	100 - 88 - 75 - 50 - 38 - 25 - 0	
5095 B	6110 B	100 - 67 - 33 - 0	100 - 67 - 33 - 22 - 0	100 - 89 - 67 - 56 - 33 - 22 - 0	
5100 B	6115 B	100 - 68 - 37 - 0	100 - 68 - 37 - 28 - 0	100 - 89 - 68 - 58 - 37 - 28 - 0	
5105 B	6125 B	100 - 70 - 35 - 0	100 - 70 - 35 - 26 - 0	100 - 90 - 70 - 61 - 35 - 26 - 0	
5110 B	6130 B	100 - 67 - 33 - 0	100 - 67 - 33 - 25 - 0	100 - 92 - 67 - 58 - 33 - 25 - 0	
5115 B	6135 B	100 - 68 - 36 - 0	100 - 68 - 36 - 27 - 0	100 - 92 - 68 - 60 - 36 - 27 - 0	
5120 B	6140 B	100 - 69 - 34 - 0	100 - 69 - 34 - 26 - 0	100 - 92 - 69 - 60 - 34 - 26 - 0	
5125 B	6145 B	100 - 67 - 33 - 0	100 - 67 - 33 - 25 - 0	100 - 92 - 67 - 58 - 33 - 25 - 0	
5135 B	6155 B	100 - 76 - 52 - 28 - 0	100 - 76 - 52 - 44 - 28 - 21 - 0	100 - 92 - 76 - 68 - 52 - 44 - 28 - 21 - 0	
5140 B	6165 B	100 - 77 - 54 - 27 - 0	100 - 77 - 54 - 47 - 27 - 20 - 0	100 - 92 - 77 - 69 - 54 - 47 - 27 - 20 - 0	
5145 B	6170 B	100 - 78 - 52 - 26 - 0	100 - 78 - 52 - 45 - 26 - 19 - 0	100 - 93 - 78 - 71 - 52 - 45 - 26 - 19 - 0	
5150 B	6175 B	100 - 75 - 50 - 25 - 0	100 - 75 - 50 - 44 - 25 - 19 - 0	100 - 94 - 75 - 69 - 50 - 44 - 25 - 19 - 0	
5155 B	6180 B	100 - 76 - 51 - 27 - 0	100 - 76 - 51 - 45 - 27 - 20 - 0	100 - 94 - 76 - 70 - 51 - 45 - 27 - 20 - 0	
5160 B	6185 B	100 - 76 - 53 - 26 - 0	100 - 76 - 53 - 46 - 26 - 20 - 0	100 - 94 - 76 - 70 - 53 - 46 - 26 - 20 - 0	
5165 B	6190 B	100 - 77 - 51 - 26 - 0	100 - 77 - 51 - 45 - 26 - 19 - 0	100 - 94 - 77 - 70 - 51 - 45 - 26 - 19 - 0	
5170 B	6195 B	100 - 75 - 50 - 25 - 0	100 - 75 - 50 - 44 - 25 - 19 - 0	100 - 94 - 75 - 69 - 50 - 44 - 25 - 19 - 0	
5180 B	6210 B	100-84-66-51-33-18-0	100-84-66-51-33-26-18-12-0	Nil	
5190 B	6230 B	100 - 83 - 67 - 50 - 33 - 17 - 0	100 - 83 - 67 - 50 - 33 - 28 - 17 - 11 - 0	Nil	
5200 B	6240 B	100 - 84 - 68 - 53 - 37 - 18 - 0	100 - 84 - 68 - 53 - 37 - 32 - 18 - 14 - 0	Nil	
5210 B	6250 B	100 - 85 - 70 - 52 - 35 - 17 - 0	100 - 85 - 70 - 52 - 35 - 31 - 17 - 13 - 0	Nil	
5220 B	6260 B	100 - 83 - 67 - 50 - 33 - 17 - 0	100 - 83 - 67 - 50 - 33 - 29 - 17 - 13 - 0	Nil	
5230 B	6270 B	100 - 84 - 68 - 52 - 36 - 18 - 0	100 - 84 - 68 - 52 - 36 - 31 - 18 - 13 - 0	Nil	
5240 B	6280 B	100 - 84 - 69 - 52 - 34 - 17 - 0	100 - 84 - 69 - 52 - 34 - 30 - 17 - 13 - 0	Nil	
5250 B	6290 B	100 - 83 - 67 - 50 - 33 - 17 - 0	100 - 83 - 67 - 50 - 33 - 29 - 17 - 13 - 0	Nil	
5260 B	6300 B	100 - 88 - 75 - 63 - 50 - 38 - 25 - 13 - 0	Nil	Nil	
5270 B	6310 B	100 - 88 - 76 - 64 - 52 - 40 - 28 - 14 - 0	Nil	Nil	
5280 B	6330 B	100 - 88 - 77 - 65 - 54 - 40 - 27 - 13 - 0	Nil	Nil	
5290 B	6340 B	100 - 89 - 78 - 65 - 52 - 39 - 26 - 13 - 0	Nil	Nil	
5300 B	6350 B	100 - 88 - 75 - 63 - 50 - 38 - 25 - 13 - 0	Nil	Nil	
5310 B	6360 B	100 - 88 - 76 - 63 - 51 - 39 - 27 - 13 - 0	Nil	Nil	
5320 B	6370 B	100 - 88 - 76 - 64 - 53 - 39 - 26 - 13 - 0	Nil	Nil	
5330 B	6380 B	100 - 88 - 77 - 64 - 51 - 38 - 26 - 13 - 0	Nil	Nil	
5340 B	6390 B	100 - 88 - 75 - 63 - 50 - 38 - 25 - 13 - 0	Nil	Nil	

Table 14



### Standard Compressor Startup Method

Models	Power Supply	Standard Compressor Starting
Using Compressor MH 6, MH10, M H12	380~415V / 3Ph / 50Hz 380V / 3Ph / 60Hz 460V / 3Ph / 60Hz 220V / 3Ph / 60Hz	DOL
Using Compressor D10, D15, D25, D35, D40, D35+D40 & D40+D50	380~415V / 3Ph / 50Hz 380V / 3Ph / 60Hz 440V / 3Ph / 50Hz	DOL
Using Compressor D50, D50+D60 & D60	460V / 3Ph / 60Hz	PWS
Using Compressor D35, D40, D50 & D60	220V / 3Ph / 60Hz	PWS

Table 15

#### **Optional Part Winding Start**

All chillers with standard DOL start compressors as shown, do not, generally require part winding start due to the use of multiple compressors allowing smaller electrical load increments. Maximum Instantaneous current flow (ICF) as shown on electrical specifications, page 27-31, must be used in determining the need of such part winding start.

In case of two values of ICF (DOL & PWS) shown in electrical data, pages 27-31, the unit must be supplied as in DOL as standard and PWS as optional. Specify PWS.

In case only one value is shown, this means that the unit will be supplied, as standard, either DOL or PWS.

### **Standard Power Entry Connections**

Power Supply	Model APCH/D	No. of Entry Points
380 440V / 3Ph / 50 Hz	5004A 5340B	One
380V / 3Ph / 60 Hz	6005A 6390B	Offe
220V / 3Ph / 60 Hz	6005A 6240B	Two
220V / 3PH / 00 HZ	6250B 6390B	I WU

Table 16

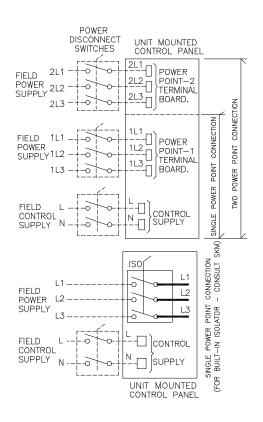
#### Notes:

All cable terminations are from the external isolator. Isolator is field supplied and field installed (by others) within close proximity of the chiller in accordance with local codes and regulations.

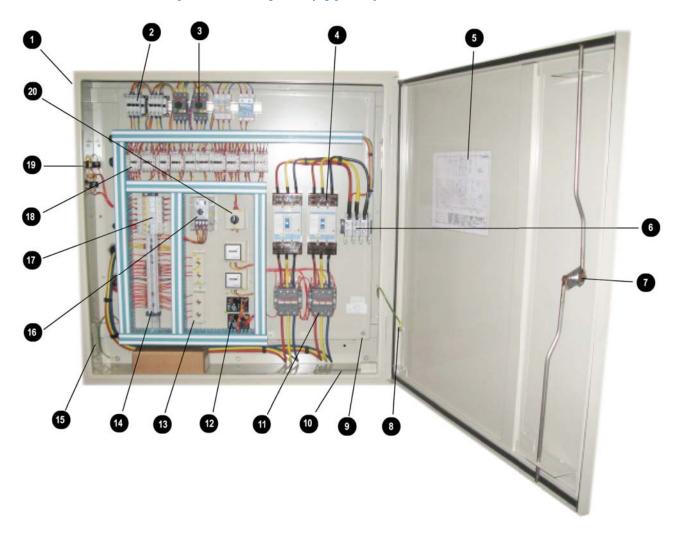
### **Voltages Range**

Unit Name Plate Power	Allowable Voltage Range						
Supply (V / Ph / Hz)	Minimum	Maximum					
380 415 / 3 / 50	360	440					
440 / 3 / 50	396	500					
380 / 3 / 60	342	418					
460 / 3 / 60	414	506					
220 / 3 / 60	200	260					

Table 17



### **Control Panel Components Layout (Typical)**



### **Description:**

- 1. IP-54 Panel Enclosure with hinged door with key and lock.
- Condenser Fan Motor Contactor.
- 3. Condenser Fan Motor Protection Circuit Breaker.
- 4. Compressor Circuit Breaker.
- Wiring Diagram.
- 6. Incoming Supply Power Terminal / Busbars.
- 7. Lock & Key.
- 8. Door Earthing.
- 9. Earth Terminal.
- 10. Detachable plate for cable entry.

- 11. Compressor Contactor.
- 12. Anti- Recycling Time Delay Relays.
- 13. Control ON/OFF & Manual/Auto Pump Down switches.
- 14. Control Circuit Terminal Board.
- 15. Filtered Ventilation.
- 16. Electronic Temperature Controller.
- 17. Control Fuses & Reset Push Buttons.
- 18. Control Logic Relays.
- 19. Indication Lamps.
- 20. Selector Switch.



#### **ELECTRICAL DATA**

Rated Power Supply - 380-415V/3Ph/50Hz

MODEL	ι	JNIT CHAR	ACTERISTI	CS		COMPRESSOR				CONDENSER		
APC H/D	MFA	MCA	IC	CF		COIV	IPKESSUK		FAN MOTOR			
			DOL	PWS	QTY	MOC	RLA	LRA	QTY	FLA	LRA	
5004A	25	15	72	-	1	15	10.7	67	1	1.4	4.7	
5006A	40	23	104	-	1	22	15.7	90	1	3.4	14.4	
5008A	63	28	124	-	1	27	19.3	105	1	4.2	18.7	
5009A	50	28	140	-	1	21	19	121	1	4.2	18.7	
5012A	63	37	140	108	1	29	26	129	2	2.2	8.7	
5017A	100	55	222	172	1	42	37	199	2	4.2	18.7	
5018A	80	51	163	133	2	21	19	121	2	4.2	18.7	
5022A	100	60	171	139	1+1	29+21	26+19	129+121	2	4.2	18.7	
5024A	100	67	178	146	2	29	26	129	2	4.2	18.7	
5025A	160	80	327	251	1	64	57	304	2	4.2	18.7	
5030A	200	103	331	255	1	81	72	304	3	4.2	18.7	
5032A	125	85	252	202	1+1	42+29	37+26	199+129	3	4.2	18.7	
5034A	160	96	263	213	2	42	37	199	3	4.2	18.7	
5035A	200	116	- 2/0	416	1 1 1	88	83	458	3	4.2	18.7	
5039A 5040A	200 250	121 138	368	292 432	1+1	64+42 108	57+37	304+199 476	3	4.2 4.2	18.7	
5040A 5050A	250	138	392	316	2	64	100 57	304	4	4.2	18.7 18.7	
5065A	315	187	416	340	2	81	72	304	6	4.2	18.7	
5070A	315	201	570	501	1+1	88+81	83+72	458+304	6	4.2	18.7	
5075A	315	212	-	512	2	88	83	458	6	4.2	18.7	
5080A	400	233	_	527	1+1	108+88	100+83	476+458	6	4.2	18.7	
5085A	400	250	-	544	2	108	100	476	6	4.2	18.7	
5095B	400	268	496	420	3	81	72	304	8	4.2	18.7	
5100B	400	281	650	581	1+2	88+81	83+72	458+304	8	4.2	18.7	
5105B	400	292	661	592	2+1	88+81	83+72	458+304	8	4.2	18.7	
5110B	400	303	-	603	3	88	83	458	8	4.2	18.7	
5115B	500	325	-	619	1+2	108+88	100+83	476+458	8	4.2	18.7	
5120B	500	342	-	636	2+1	108+88	100+83	476+458	8	4.2	18.7	
5125B	500	359	-	653	3	108	100	476	8	4.2	18.7	
5135B	500	370	739	670	1+3	88+81	83+72	458+304	12	4.2	18.7	
5140B	500	381	750	681	2+2	88+81	83+72	458+304	12 12	4.2	18.7	
5145B 5150B	500 500	392 403	761	692 703	3+1	88+81 88	83+72 83	458+304 458	12	4.2 4.2	18.7 18.7	
5155B	630	403	-	719	1+3	108+88	100+83	476+458	12	4.2	18.7	
5160B	630	441	-	736	2+2	108+88	100+83	476+458	12	4.2	18.7	
5165B	630	458	_	753	3+1	108+88	100+83	476+458	12	4.2	18.7	
5170B	630	475	-	770	4	108	100	476	12	4.2	18.7	
5180B	630	481	709	633	3+3	81+64	72+57	304+304	18	4.2	18.7	
5190B	630	526	754	678	6	81	72	304	18	4.2	18.7	
5200B	800	550	919	850	2+4	88+81	83+72	458+304	18	4.2	18.7	
5210B	800	572	941	872	4+2	88+81	83+72	458+304	18	4.2	18.7	
5220B	800	594	-	894	6	88	83	458	18	4.2	18.7	
5230B	800	633	-	927	2+4	108+88	100+83	476+458	18	4.2	18.7	
5240B	800	667	-	961	4+2	108+88	100+83	476+458	18	4.2	18.7	
5250B	1000	701	-	995	6	108	100	476	18	4.2	18.7	
5260B	800	695	923	847	8	81	72	304	24	4.2	18.7	
5270B	1000	720	1088	1020	2+6	88+81	83+72	458+304	24	4.2	18.7	
5280B 5290B	1000	742	1110	1042	4+4	88+81	83+72	458+304	24	4.2	18.7	
5290B 5300B	1000 1000	764 786	1132	1064 1086	6+2 8	88+81 88	83+72 83	458+304 458	24 24	4.2 4.2	18.7 18.7	
5310B	1000	824	-	1118	2+6	108+88	100+83	476+458	24	4.2	18.7	
5320B	1000	858	-	1118	4+4	108+88	100+83	476+458	24	4.2	18.7	
5330B	1000	892	-	1186	6+2	108+88	100+83	476+458	24	4.2	18.7	
5340B	1250	926	_	1220	8	108	100+63	476	24	4.2	18.7	
00 100	1200	120	1	1220	J	100	100	170	_ T	1.4	10.7	

#### **NOTE:**

Table 18

220-240V/1PH/50Hz control power must be supplied from a separate source, through field supplied and installed disconnect switch



#### **ELECTRICAL DATA**

Rated Power Supply - 440V/3Ph/50Hz

MODEL	ι	JNIT CHAR	ACTERISTI	CS		Kated Fower 3			CONDENS		NSER
				CF.	_	CON	IPRESSOR			FAN M	
APC H/D	MFA	MCA	DOL	PWS	QTY	MOC	RLA	LRA	QTY	FLA	LRA
5004A	25	15	71	-	1	15	10.7	67	1	1.1	4.3
5006A	40	22	103	-	1	22	15.7	90	1	2.7	13.1
5008A	50	28	121	-	1	27	19.3	105	1	3.6	16.0
5009A	50	27	143	-	1	21	19	127	1	3.6	16.0
5012A	63	36	145	111	1	29	26	135	2	1.9	7.9
5017A	100	53	229	176	1	42	37	209	2	3.6	16.0
5018A	80	50	166	134	2	21	19	127	2	3.6	16.0
5022A	100	59	174	140	1+1	29+21	26+19	135+127	2	3.6	16.0
5024A	100	66	181	147	2	29	26	135	2	3.6	16.0
5025A	160	78	339	259	1	64	57	319	2	3.6	16.0
5030A	200	101	342	262	1	81	72	319	3	3.6	16.0
5032A	125	83	258	206	1+1	42+29	37+26	209+135	3	3.6	16.0
5034A	160	94	269	217	2	42	37	209	3	3.6	16.0
5035A	200	115	- 270	432	1	88	83	481	3	3.6	16.0
5039A	200	119	379	299	1+1	64+42	57+37	319+209	3	3.6	16.0
5040A	250	136	402	448 323	1	108	100 57	500 319	3	3.6	16.0
5050A 5065A	200 315	143 184	403 425	345	2	64 81	72	319	6	3.6 3.6	16.0 16.0
5070A	315	197	587	515	1+1	88+81	83+72	481+319	6	3.6	16.0
5075A	315	208	- 307	526	2	88	83	481	6	3.6	16.0
5080A	400	230	-	542	1+1	108+88	100+83	500+481	6	3.6	16.0
5085A	400	247	-	559	2	108	100+63	500	6	3.6	16.0
5095B	400	263	504	424	3	81	72	319	8	3.6	16.0
5100B	400	277	666	594	1+2	88+81	83+72	481+319	8	3.6	16.0
5105B	400	288	677	605	2+1	88+81	83+72	481+319	8	3.6	16.0
5110B	400	299	-	616	3	88	83	481	8	3.6	16.0
5115B	500	320	-	632	1+2	108+88	100+83	500+481	8	3.6	16.0
5120B	500	337	-	649	2+1	108+88	100+83	500+481	8	3.6	16.0
5125B	500	354	-	666	3	108	100	500	8	3.6	16.0
5135B	500	363	753	680	1+3	88+81	83+72	481+319	12	3.6	16.0
5140B	500	374	764	691	2+2	88+81	83+72	481+319	12	3.6	16.0
5145B	500	385	775	702	3+1	88+81	83+72	481+319	12	3.6	16.0
5150B	500	396	-	713	4	88	83	481	12	3.6	16.0
5155B	630	417	-	730	1+3	108+88	100+83	500+481	12	3.6	16.0
5160B	630	434	-	747	2+2	108+88	100+83	500+481	12	3.6	16.0
5165B	630	451	-	764	3+1	108+88	100+83	500+481	12	3.6	16.0
5170B	630	468	-	781	4	108	100	500	12	3.6	16.0
5180B	630	470	711	632	3+3	81+64	72+57	319+319	18	3.6	16.0
5190B	630	515	756	676	6	81	72	319	18	3.6	16.0
5200B	630 800	540 562	929 951	857 879	2+4 4+2	88+81	83+72 83+72	481+319 481+319	18 18	3.6	16.0
5210B						88+81					16.0
5220B 5230B	800 800	584 622	973	901 934	6 2+4	88 108+88	83 100+83	481 500+481	18 18	3.6 3.6	16.0 16.0
5240B	800	656	-	968	4+2	108+88	100+83	500+481	18	3.6	16.0
5250B	800	690	-	1002	6	108	100+63	500+461	18	3.6	16.0
5260B	800	680	922	842	8	81	72	319	24	3.6	16.0
5270B	800	705	1095	1023	2+6	88+81	83+72	481+319	24	3.6	16.0
5280B	1000	727	1117	1045	4+4	88+81	83+72	481+319	24	3.6	16.0
5290B	1000	749	1139	1043	6+2	88+81	83+72	481+319	24	3.6	16.0
5300B	1000	771	-	1089	8	88	83	481	24	3.6	16.0
5310B	1000	809	-	1122	2+6	108+88	100+83	500+481	24	3.6	16.0
5320B	1000	843	-	1156	4+4	108+88	100+83	500+481	24	3.6	16.0
5330B	1000	877	-	1190	6+2	108+88	100+83	500+481	24	3.6	16.0
5340B	1250	911	-	1224	8	108	100	500	24	3.6	16.0

### NOTE:

Table 19

220V/1PH/50Hz control power must be supplied from a separate source, through field supplied and installed disconnect switch



#### **ELECTRICAL DATA**

Rated Power Supply - 380V/3Ph/60 Hz

MODEL	ı	JNIT CHAR	ACTERISTI	CS	CONDENSER CONDENSER						
				CF.	COMPRESSOR FAN M						
APC H/D	MFA	MCA	DOL	PWS	QTY	MOC	RLA	LRA	QTY	FLA	LRA
6005A	40	17	78	1 113	1	17.5	12.5	72	1	1.7	5.6
6007A	50	27	126	_	1	26	18.7	110	1	3.8	16.0
6009A	63	32	178	_	1	30	21.4	150	1	5.4	27.5
6011A	63	34	186	_	1	26	23	158	1	5.4	27.5
6014A	80	45	167	_	1	35	31	152	2	3.2	12.2
6020A	125	67	261	204	1	50	45	228	2	5.4	27.5
6022A	100	63	214	-	2	26	23	158	2	5.4	27.5
6025A	125	73	208	_	1+1	35+26	31+23	152+158	2	5.4	27.5
6028A	125	81	216	_	2	35	31	152	2	5.4	27.5
6030A	200	96	365	282	1	76	68	332	2	5.4	27.5
6035A	250	122	370	287	1	97	85	332	3	5.4	27.5
6036A	160	103	297	-	1+1	50+35	45+31	228+152	3	5.4	27.5
6039A	200	117	311	254	2	50	45	228	3	5.4	27.5
6040A	250	140	-	468	1	106	99	505	3	5.4	27.5
6046A	250	146	415	332	1+1	76+50	68+45	332+228	3	5.4	27.5
6050A	315	166	-	530	1	130	120	579	3	5.4	27.5
6060A	250	175	444	361	2	76	68	332	4	5.4	27.5
6075A	315	224	472	389	2	97	85	332	6	5.4	27.5
6080A	400	241	645	569	1+1	106+97	99+85	505+332	6	5.4	27.5
6085A	400	255	-	583	2	106	99	505	6	5.4	27.5
6090A	500	281	-	646	1+1	130+106	120+99	579+505	6	5.4	27.5
6095A	500	302	-	667	2	130	120	579	6	5.4	27.5
6110B	500	319	567	484	3	97	85	332	8	5.4	27.5
6115B	500	337	740	665	1+2	106+97	99+85 99+85	505+332	8	5.4	27.5
6125B	500	351	754	679	2+1	106+97	99+85	505+332	8	5.4	27.5
6130B	500	365	-	693	3	106	99	505	8	5.4	27.5
6135B	630	391	-	755	1+2	130+106	120+99	579+505	8	5.4	27.5
6140B	630	412	-	776	2+1	130+106	120+99	579+505	8	5.4	27.5
6145B	630	433	-	797	3	130	120	579	8	5.4	27.5
6155B	630	444	847	771	1+3	106+97	99+85	505+332	12	5.4	27.5
6165B	630	458	861	785	2+2	106+97	99+85	505+332	12	5.4	27.5
6170B	630	472	875	799	3+1	106+97	99+85	505+332	12	5.4	27.5
6175B	630	486	-	813	4	106	99	505	12	5.4	27.5
6180B	800	512	-	876	1+3	130+106	120+99	579+505	12	5.4	27.5
6185B	800	533	-	897	2+2	130+106	120+99	579+505	12	5.4	27.5
6190B	800	554	-	918	3+1	130+106	120+99	579+505	12	5.4	27.5
6195B	800	575	-	939	4	130	120	579	12	5.4	27.5
6210B	800	578	825	742	3+3	97+76	85+68	332+332	18	5.4	27.5
6230B	800	628	876	793	6	97	85	332	18	5.4	27.5
6240B	800	660	1063	988	2+4	106+97	99+85	505+332	18	5.4	27.5
6250B	800	688	1091	1016	4+2		99+85	505+332		5.4	27.5
6260B	1000	716	1119	1044	6	106	99	505	18	5.4	27.5
6270B	1000	763	-	1127	2+4	130+106	120+99	579+505	18	5.4	27.5
6280B	1000	805	-	1169	4+2	130+106	120+99	579+505	18	5.4	27.5
6290B	1000	847	1070	1211	6	130	120	579	18	5.4	27.5
6300B	1000	831	1079	996	8	97	85	332	24	5.4	27.5
6310B	1000	862	1266	1190	2+6	106+97	99+85	505+332	24	5.4	27.5
6330B	1000	890	1294	1218	4+4	106+97	99+85	505+332	24	5.4	27.5
6340B	1250	918	1322	1246	6+2	106+97	99+85	505+332	24	5.4	27.5
6350B	1250	946	-	1274	8	106	99	505 579+505	24	5.4	27.5
6360B	1250 1250	994 1036	-	1358	2+6	130+106	120+99 120+99		24	5.4	27.5 27.5
6370B 6380B	1250		-	1400	4+4	130+106	120+99	579+505	24	5.4	
		1078	-	1442	6+2	130+106		579+505 570	24	5.4	27.5
6390B	1250	1120	-	1484	8	130	120	579	24	5.4	27.5

NOTE:

Table 20

220V/1PH/60Hz control power must be supplied from a separate source, through field supplied and installed disconnect switch



#### **ELECTRICAL DATA**

Rated Power Supply - 460V/3Ph/60 Hz

MODEL	1	INIT CHAR	∆CTFRISTI	CS				CONDENSER			
				CS CF	_	CON	IPRESSOR			FAN M	
APC H/D	MFA	MCA	DOL	PWS	QTY	MOC	RLA	LRA	QTY	FLA	LRA
6005A	32	15	74	PWS		15	10.7	67	1	1.6	
6005A	40	23	107	-	1	22	15.7	90	1	3.7	6.6 17.3
6007A	50	29	137		1	27	19.3	105	1	5.0	31.5
6011A	50	29	145	-	1	21	19.3	113	1	5.0	31.5
6014A	80	38	140	110	1	29	26	123	2	2.9	14.4
6020A	100	56	237	187	1	42	37	200	2	5.0	31.5
6022A	80	53	169	140	2	21	19	113	2	5.0	31.5
6025A	100	62	179	148	1+1	29+21	26+19	123+113	2	5.0	31.5
6028A	100	69	186	155	2	29	26	123	2	5.0	31.5
6030A	160	81	329	256	1	64	57	292	2	5.0	31.5
6035A	200	104	334	261	1	81	71	292	3	5.0	31.5
6036A	125	87	268	218	1+1	42+29	37+26	200+123	3	5.0	31.5
6039A	160	98	279	229	2	42	37	200	3	5.0	31.5
6040A	250	119	-	431	1	88	83	458	3	5.0	31.5
6046A	200	123	371	298	1+1	64+42	57+37	292+200	3	5.0	31.5
6050A	250	140	-	448	1	108	100	478	3	5.0	31.5
6060A	250	148	396	323	2	64	57	292	4	5.0	31.5
6075A	315	190	420	347	2	81	71	292	6	5.0	31.5
6080A	315	205	586	517	1+1	88+81	83+71	458+292	6	5.0	31.5
6085A	315	217	-	529	2	88	83	458	6	5.0	31.5
6090A	400	238	-	546	1+1	108+88	100+83	478+458	6	5.0	31.5
6095A	400	255	-	563	2	108	100	478	6	5.0	31.5
6110B	400	271	501	428	3	81	71	292	8	5.0	31.5
6115B	400	286	667	598	1+2	88+81	83+71	458+292	8	5.0	31.5
6125B	400	298	679	610	2+1	88+81	83+71	458+292	8	5.0	31.5
6130B	400	310	-	622	3	88	83	458	8	5.0	31.5
6135B	500	331	-	639	1+2	108+88	100+83	478+458	8	5.0	31.5
6140B	500	348	-	656	2+1	108+88	100+83	478+458	8	5.0	31.5
6145B 6155B	500 500	365 377	758	673 689	3 1+3	108 88+81	100 83+71	478 458+292	8 12	5.0 5.0	31.5 31.5
6165B	500	389	770	701	2+2	88+81	83+71	458+292	12	5.0	31.5
6170B	500	401	782	713	3+1	88+81	83+71	458+292	12	5.0	31.5
6175B	500	413	-	725	4	88	83	458	12	5.0	31.5
6180B	630	434	_	742	1+3	108+88	100+83	478+458	12	5.0	31.5
6185B	630	451	_	759	2+2	108+88	100+83	478+458	12	5.0	31.5
6190B	630	468	-	776	3+1	108+88	100+83	478+458	12	5.0	31.5
6195B	630	485	-	793	4	108	100	478	12	5.0	31.5
6210B	630	492	722	649	3+3	81+64	71+57	292+292	18	5.0	31.5
6230B	630	534	764	691	6	81	71	292	18	5.0	31.5
6240B	800	561	942	873	2+4	88+81	83+71	458+292	18	5.0	31.5
6250B	800	585	966	897	4+2	88+81	83+71	458+292		5.0	31.5
6260B	800	609	-	921	6	88	83	458	18	5.0	31.5
6270B	800	647	-	955	2+4	108+88	100+83	478+458	18	5.0	31.5
6280B	800	681	-	989	4+2	108+88	100+83	478+458	18	5.0	31.5
6290B	1000	715	- 02/	1023	6	108	100	478	18	5.0	31.5
6300B	800	706	936	863	8	81	71	292	24	5.0	31.5
6310B	1000	733	1114	1045	2+6	88+81	83+71	458+292	24	5.0	31.5
6330B 6340B	1000 1000	757 781	1138 1162	1069 1093	4+4 6+2	88+81 88+81	83+71 83+71	458+292 458+292	24	5.0 5.0	31.5 31.5
6350B	1000	805	-	1117	8	88	83	458	24	5.0	31.5
6360B	1000	843	-	1151	2+6	108+88	100+83	478+458	24	5.0	31.5
6370B	1000	877	-	1185	4+4	108+88	100+83	478+458	24	5.0	31.5
6380B	1250	911	-	1219	6+2	108+88	100+83	478+458	24	5.0	31.5
6390B	1250	945	-	1253	8	108	100	478	24	5.0	31.5
					1					-	

#### NOTE:

Table 21

220V/1PH/60Hz control power must be supplied from a separate source, through field supplied and installed disconnect switch



#### **ELECTRICAL DATA**

Rated Power Supply - 220V/3Ph/60 Hz

MODEL	L UNIT CHARACTERISTICS COMPRESSOR CONDENSER										
MODEL	l	JNII CHARA									
APC H/D	MFA	MCA	CA ICF					1			
			DOL	PWS	QTY	MOC	RLA	LRA	QTY	FLA	LRA
6005A	50	29	147	-	1	29	20.7	137	1	3.0	9.7
6007A	80 100	45 58	185	-	1	43	30.7	157 210	1	6.7 9.4	27.7
6009A 6011A	100	58 59	258 322	-	1	54 45	38.6 40	274	1	9.4	47.6 47.6
6014A	160	80	290	224	1	61	55	263	2	5.5	21.2
6020A	200	116	476	371	1	91	78	419	2	9.4	47.6
6022A	160	109	371	-	2	45	40	274	2	9.4	47.6
6025A	200	128	360	_	1+1	61+45	55+40	263+274	2	9.4	47.6
6028A	200	143	375	-	2	61	55	263	2	9.4	47.6
6030A	315	168	-	515	1	139	119	611	2	9.4	47.6
6035A	400	214	-	525	1	177	149	611	3	9.4	47.6
6036A	315	181	540	-	1+1	91+61	78+55	419+263	3	9.4	47.6
6039A	315	204	563	459	2	91	78	419	3	9.4	47.6
6040A	500	244	-	882	1	193	173	960	3	9.4	47.6
6046A	400	255	755	603	1+1	139+91	119+78	611+419	3	9.4	47.6
6050A	500	289	-	918	1	237	209	1002	3	9.4	47.6
6060A	500	305	-	653	2	139	119	611	4	9.4	47.6
6075A	630	392	-	702	2	177	149	611 960+611	6	9.4	47.6
6080A 6085A	630 630	422 446	-	1060 1084	1+1	193+177 193	173+149 173	960+611	6	9.4 9.4	47.6 47.6
6090A	800	440	-	1119	1+1	237+193	209+173	1002+960	6	9.4	47.6
6095A	800	527	-	1155	2	237	209+173	1002+300	6	9.4	47.6
6110B	800	559	_	870	3	177	149	611	8	9.4	47.6
6115B	800	589	_	1227	1+2	193+177	173+149	960+611	8	9.4	47.6
6125B	800	613	-	1251	2+1	193+177	173+149	960+611	8	9.4	47.6
6130B	1000	637	-	1275	3	193	173	960	8	9.4	47.6
6135B	1000	682	-	1311	1+2	237+193	209+173	1002+960	8	9.4	47.6
6140B	1000	718	-	1347	2+1	237+193	209+173	1002+960	8	9.4	47.6
6145B	1000	754	-	1383	3	237	209	1002	8	9.4	47.6
6155B	1000	776	-	1414	1+3	193+177	173+149	960+611	12	9.4	47.6
6165B	1000	800	-	1438	2+2	193+177	173+149	960+611	12	9.4	47.6
6170B	1000	824	-	1462	3+1	193+177	173+149	960+611	12	9.4	47.6
6175B	1250	848	-	1486	4	193	173	960	12	9.4	47.6
6180B	1250	893 929	-	1522 1558	1+3	237+193	209+173 209+173	1002+960 1002+960	12	9.4	47.6
6185B 6190B	1250 1250	929 965	-	1594	2+2 3+1	237+193 237+193	209+173	1002+960	12 12	9.4 9.4	47.6 47.6
6195B	1250	1001	-	1630	4	237+193	209+173	1002+900	12	9.4	47.6
6210B	1250	1011		1321	3+3	177+139	149+119	611+611	18	9.4	47.6
6230B	1250	1100	_	1411	6	177	149	611	18	9.4	47.6
6240B	1500	1154	-	1792	2+4	193+177	173+149	960+611	18	9.4	47.6
6250B	1500	1202	-	1840	4+2	193+177	173+149	960+611	18	9.4	47.6
6260B	1500	1250	-	1888	6	193	173	960	18	9.4	47.6
6270B	800+1250	527+848	-	1155+1486	2+4		209+173	1002+960		9.4	47.6
6280B	1250+630	1001+446	-	1630+1084	4+2	237+193	209+173	1002+960		9.4	47.6
6290B	1250+800	1001+527	-	1630+1155	6	237	209	1002	18	9.4	47.6
6300B	1000+1000	746+746	-	1056+1056	8	177	149	611	24	9.4	47.6
6310B	1000+1000	776+776	-	1414+1414		193+177	173+149	960+611	24	9.4	47.6
6330B	1000+1000	800+800	-	1438+1438		193+177	173+149	960+611	24	9.4	47.6
6340B	1000+1000	824+824	-	1462+1462		193+177	173+149	960+611	24	9.4	47.6
6350B 6360B	1250+1250 1250+1250	848+848 893+893	-	1486+1486 1522+1522	8 2+6	193 237+193	173 209+173	960 1002+960	24	9.4	47.6 47.6
6370B	1250+1250	929+929	-	1522+1522		237+193	209+173	1002+960		9.4	47.6
6380B	1250+1250	965+965	-	1594+1594		237+193	209+173	1002+960		9.4	47.6
6390B	1250+1250		-	1630+1630		237+193	209+173	1002+900	24	9.4	47.6
03700	123011230	100171001	_	1030 + 1030	U	231	207	1002	<b>4</b>	7.4	T1.U

NOTE:

Table 22

220V/1PH/60Hz control power must be supplied from a separate source, through field supplied and installed disconnect switch



### Legend (Electrical)

FLA Full Load Amps

**Hz** Hertz

ICF Max. Instanteneous Current Flow during starting

LRA Locked Rotor Amps

MCA Minimum Circuit Amps

MFA Maximum Fuse Amps
MOC Maximum Operating Current

Ph Phase

RLA Rated Load Amps at LCWT 45°F (7.2°C) and ambient

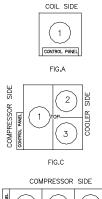
temperature 115°F (46°C)

V Volts

#### **General Notes**

- 1. Minimum circuit amps (MCA) is based on 125% of the rated load Amps of the largest compressor motor plus 100 % of the rated load Amps for all other loads included in the circuit (per NEC article 430-24).
- 2. Maximum Fuse Amps (MFA) is based upon 225% of the rated load Amps for the largest compressor motor plus 100% of the rated Amps for all other loads included in the circuit.
- Maximum Instanteneous current flow (ICF) during starting is the sum of LRA for the starting compressor, plus the total RLA/FLA for all other compressor(s) and condenser motors running.
- 4. The PI mentioned in the capacity ratings (Page # 12-21) is the actual Power Consumption of the compressors only and should not be used to calculate cable or disconnect switch sizes. Refer Electrical Specifications on pages 28-33 for the same.

### **Condenser Fan Operating Logic**



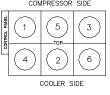
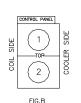
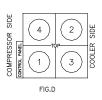
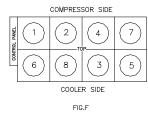


FIG.E







Model APCH / D	Figure #	•	tion Through Compressor	Compressor Fan Sequence of Operation				
AI OII/D	п	C1	C2	C3	Step 1	Step 2	Step 3	
5004 A 5009 A	Α	1						
6005 A 6001 A	A							
5012 A, 5017 A, 5025 A	В				2			
6014 A, 6020 A, 6030 A	Б				2			
5018 A 5024 A	В	2	2					
6022 A, 6028 A	ь		2					
5030 A, 5035 A, 5040 A	С	2			3			
6035 A, 6040A, 6050A	C	2			3			
5032 A, 5034 A, 5039 A	С	2	2		3			
6036 A, 6039 A, 6046 A		2	_		0			
5050 A	D	D	2			3	4	
6060 A		-			0			
5065 A 5085 A	F	2	3		4	5	6	
6075 A 6095 A	_	-	-		r	J	3	
5095 A 5125 B	F	2	3	3	6	7	8	
6110 B 6145 B	'	3	4	5	U	,	U	

Table 23

#### Notes:

Fan-1 runs immediately upon first call of cooling except single fan models

APCD 5135 - 5170 B and 6155 - 6195 B Condenser Fans Logic = 2 x Fig. E

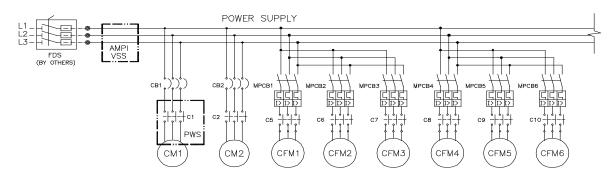
APCD 5180 - 5250B and 6210 - 6290B Condenser Fans  $Logic = 3 \times Fig. E$ 

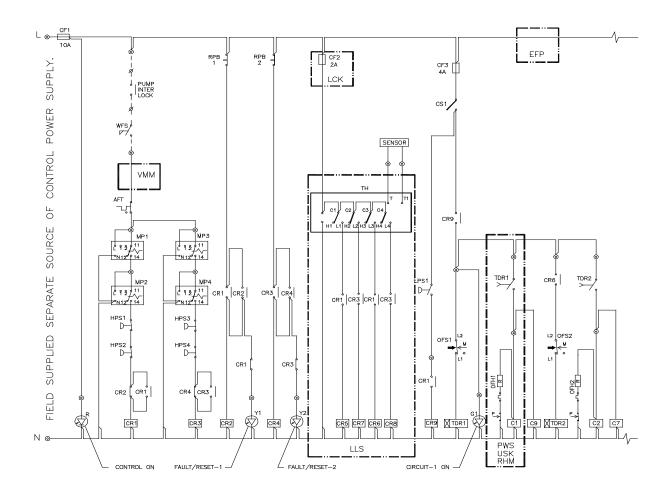
APCD 5260 - 5340B and 6300 - 6390B Condenser Fans Logic = 4 x Fig. E



### **Typical Wiring Diagram**

The typical wiring diagram shown below is for Models APCD 5145B. For all other models, individual diagrams are available in drawing pocket located in the Control Panel.



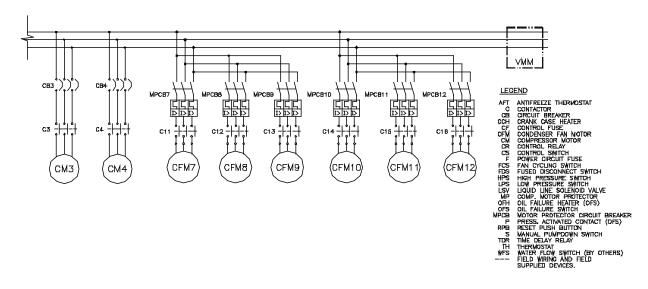


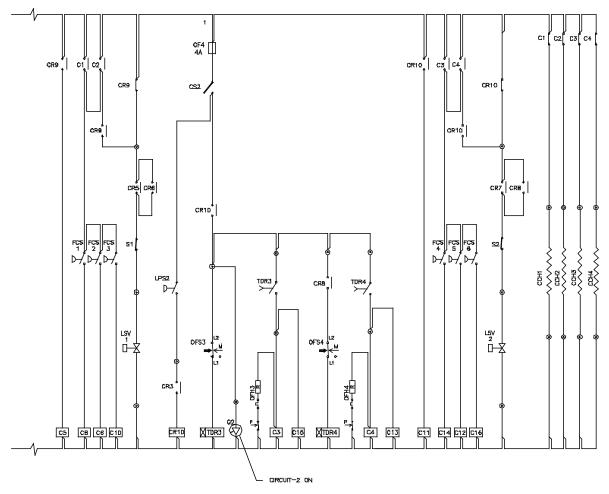
#### Note:

Shaded area indicate location / connection point for factory installed optional features. Refer page # 38 for schematic representation of optional features.

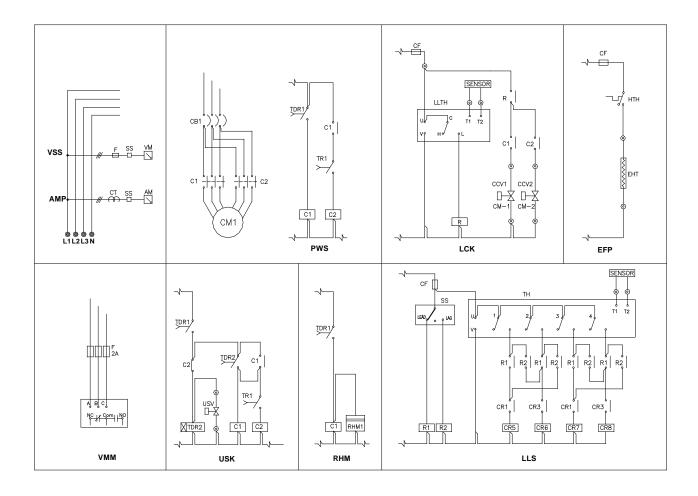


# **Typical Wiring Diagram**





# **Optional Features Electrical Schematic**



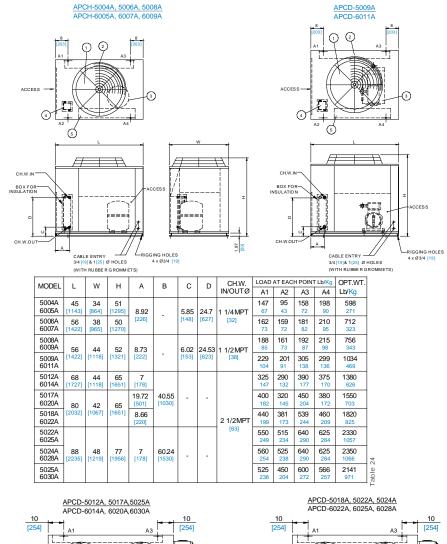
	LEGEND									
С	CONTACTOR									
CCV	CAPACITY CONTROL VALVE									
CR/R	CONTROL RELAY									
СТ	CURRENT TRANSFORMER									
EHT	EVAP. HEATER TAPE									
HTH	HEATING THERMOSTAT									
LLTH	LOAD LIMIT THERMOSTAT									
SS	LEAD/LAG SELETOR SWITCH									
TDR	TIME DELAY RELAY									
TH	THERMOSTAT									
TR	TIMER (PWS)									
USV	UNLOAD SOLENOID VALVE									

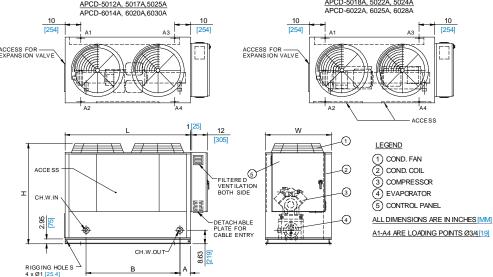
	OPTION								
AMP	AMMETER & SELECTOR SWITCH								
EFP	EVAP. FREEZE PROTECTION KIT								
LCK	LOAD LIMIT CONTROL KIT								
LLS	LEAD/LAG SWITCH								
PWS	PART WINDING START								
RHM	RUN HOUR METER								
USK	UNLOAD START KIT								
VMM	VOLTAGE MONITORING MODULE								
VSS	VOLTMETER & SELECTOR SWITCH								

38

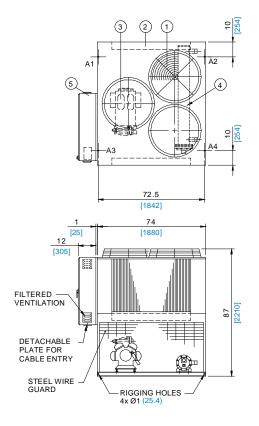
## **Dimensional Data**

APCH Models - 5004A-5008A & 6005A-6009A APCD Models - 5009A-5025A & 6011A-6030A



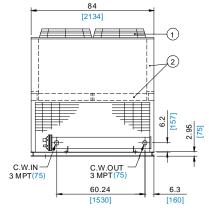


## APCD Models - 5030A-5040A & 6035A-6050A

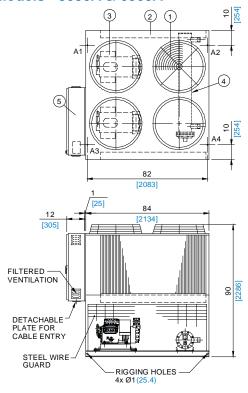


MODEL	LOAD	LOAD AT EACH POINT Lb/ Kg OPT.WI								
APCD-	A1	A2	A3	A4	Lb/Kg					
5030A	630	530	710	580	2450					
6035A	286	240	322	263	1111					
* 5032 A	755	635	2835							
6036 A	342	288	1286							
* 5034 A	771	639	880	640	2930					
6039 A	350	290	399	290	1329					
5035 A	719	591	800	630	2740					
6040 A	326	268	363	286	1243					
* 503 9A	781	649	910	670	3010					
6046 A	354	294	413	304	1365					
5040A	730	590	840	630	2790					
6050A	331	267	381	286	1265					

\* MODEL WITH 2-COMPRESSORS



## APCD Models - 5050A & 6060A



### LEGEND

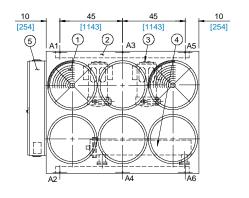
- (1) COND. FAN
- (2) COND. COIL
- (3) COMPRESS OR
- 4 EVAPO RATOR
- 5 CONTROL PANEL

ALL DIMENSIONS ARE IN INCHES (MM) A1-A4 ARE LOADING POINTS Ø3/4 (19)

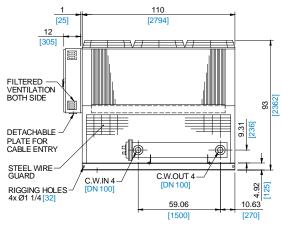
LOAD AT EACH POINT Lb/Kg OPT.WT.

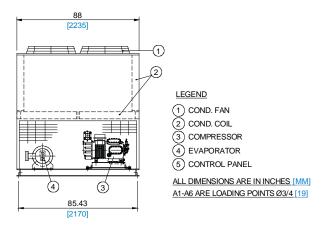
	INIODEL					01 1.00 1.	
	APCD-	A1	A2	А3	A4	Lb/ Kg	26
	5050A 6060A	1091 495	829 376	1180 535	880 399	3980 1805	Table 2
-	88 [2235]		-				
			-	1			
			-	2			
				/			
				7.46			
				7.7	1		
	-	/ OUT	##:	+	<del>-</del>		
C.W.IN — 3 MPT(75)		/.OUT — PT(75) )6		6.3	3.94		
-	[150	01	-1 1-	[160]			

## APCD Models - 5065A-5085A & 6075A-6095A

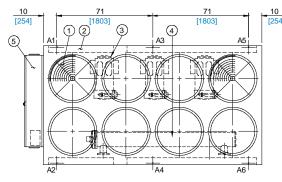


MODEL		OPT.WT.					
APCD-	A1	A2	А3	A4	A5	A6	Lb/Kg
5065A	875	585	1020	960	740	640	4820
6075A	397	265	463	435	336	290	2186
5070A	950	630	1120	1010	770	670	5150
6080A	431	286	508	458	349	304	2336
5075A	1000	660	1170	1050	860	710	5450
6085A	454	299	531	476	390	322	2472
5080A	1010	670	1200	1060	860	710	5510
6090A	458	304	544	481	390	322	2499
5085A	1020	680	1230	1070	880	720	5600
6095A	463	308	558	485	399	327	2540



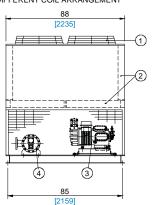


## APCD Models - 5095B-5125B & 6110B-6145B

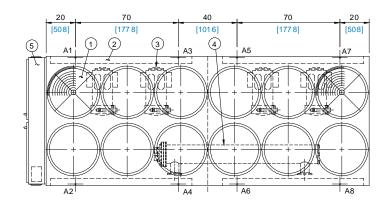


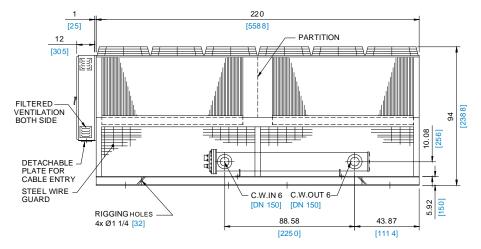
MODEL		LOAD ON EACH POINT Lb/Kg								
APCD-	A1	A2	A3	A4	A5	A6	Lb/Kg			
5095B	1133	977	1746	1296	1002	951	7105			
6110B	514	443	792	588	454	431	3222			
5100B	1220	1016	1831	1335	1020	969	7391			
6115B	553	461	830	606	463	439	3352			
* 5105B	1233	1030	1979	1392	1036	983	7653			
6125B	559	467	898	631	470	446	3471			
5110B	1249	1046	2059	1428	1125	1022	7929			
6130B	566	474	934	648	510	464	3596			
5115B	1251	1046	2059	1428	1125	1022	7931			
6135B	567	474	934	648	510	464	3597			
* 5120B	1251	1046	2061	1428	1125	1022	7933			
6140B	567	474	935	648	510	464	3598			
5125B	1251	1046	2061	1428	1125	1024	7935			
6145B	567	474	935	648	510	465	3599			
* DIFFER	ENT C	OIL ARI	RANGE	MENT			Table 28			

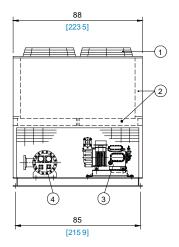
		L
1	162	
[25]	[4115]	
12		
[305]		
FILTERED VENTILATION BOTH SIDE		94
DETACHABLE PLATE FOR CABLE ENTRY		8.73
STEEL WIRE GUARD	C.W.IN 5 C.W.OUT 5— [DN 125] [DN 125]	5.91
RIGGING HOLES ${\longrightarrow}$ 4x Ø1 1/4[32]	89.76	27.9



### APCD Models - 5135B-5170B & 6155B-6195B







MODEL		LOAD ON EACH POINT Lb/Kg								
APCD-	A1	A2	А3	A4	A5	A6	A7	A8	Lb/Kg	
513 5B	1415	1050	1311	1195	1215	1081	1222	1046	9535	
615 5B	642	476	595	542	551	490	554	474	4324	
514 0B	1464	1082	1434	1251	1238	1104	1245	1069	9887	
616 5B	664	491	650	567	561	501	565	485	4484	
5145B	1484	1102	1454	1272	1354	1156	1297	1100	10219	
6170B	673	500	659	577	614	524	588	499	4634	
515 0B	1495	1111	1464	1281	1393	1175	1405	1142	10466	
617 5B	677	504	664	581	632	533	637	518	4746	
515 5B	1496	1111	1465	1281	1393	1175	1405	1142	10468	
618 0B	678	504	664	581	632	533	637	518	4747	
516 0B	1496	1111	1465	1281	1394	1175	1406	1142	10470	
618 5B	678	504	664	581	632	533	638	518	4748	
516 5B	1497	1111	1466	1281	1394	1175	1406	1142	10472	
619 0B	679	504	665	581	632	533	637	518	4749	
517 0B	1497	1111	1466	1281	1395	1175	1407	1142	10474	
619 5B	679	504	665	581	632	533	638	518	4750	

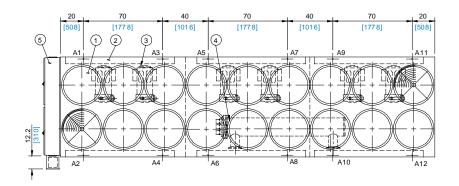
Table 29

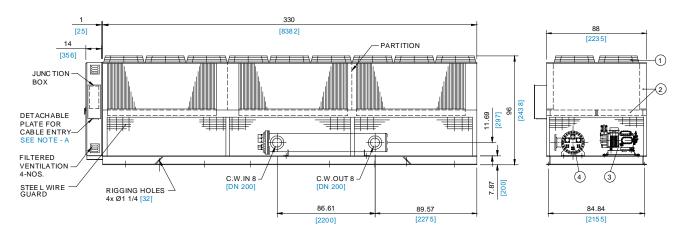
## LEGEND

- 1 COND. FAN
- (2) COND. COIL
- 3 COMPRESSOR
- (4) EVAPORATOR
- (5) CONTROL PANEL

ALL DIMENSIONS ARE IN INCHES [MM] A1-A8 ARE LOADING POINTS Ø3/4 [19]

#### APCD Models - 5180B-5250B & 6210B-6290B





### LEGEND

- (1) COND. FAN
- (2) COND. COIL
- (3) COMPRESSOR
- 4 EVAPORATOR
- (5) CONTROL PANEL

ALL DIMENSIONS ARE IN INCHES [MM]

A1-A12 ARE LOADING POINTS Ø3/4 [19]

#### LOAD ON EACH POINT Lb/ Kg OPT. MODEL APCD-Α1 Lb/Kg A2 АЗ A6 Α8 Α9 A10 A11 A12 5180B 674 529 6210B 5190B 6230B 5200B 6844 6240B 561 5210B 6250B 5220B 6260B 5230B 6270B 5240B 6280B 5250B 6290B

Table 30

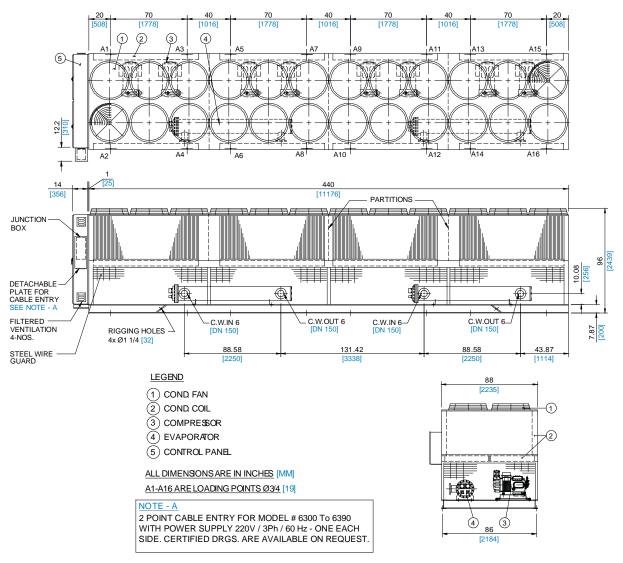
2 POINT CABLE ENTRY FOR MODEL # 6270,6280 & 6290

WITH POWER SUPPLY 220V / 3Ph / 60 Hz - ONE EACH

SIDE, CERTIFIED DRGS, ARE AVAILABLE ON REQUEST.



## APCD Models - 5260B-5340B & 6300B-6390B



MODEL		LOAD ON EACH POINT Lb/ Kg										OPT. WT.					
APCD-	A1	A2	А3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	Lb/Kg
5260B	1615	1301	1403	1330	1376	1241	1361	1201	1290	976	1403	1330	1376	1241	1361	1201	21006
6300B	732	590	636	603	624	563	617	545	585	443	636	603	624	563	617	545	9526
5270B	1712	1334	1433	1341	1376	1241	1361	1201	1387	1009	1433	1341	1376	1241	1361	1201	21348
6310B	776	605	650	608	624	563	617	545	629	458	650	608	624	563	617	545	9682
5280B	1734	1357	1457	1363	1495	1296	1415	1234	1409	1032	1457	1363	1495	1297	1415	1234	22053
6330B	786	615	661	618	678	587	642	560	639	468	661	618	678	588	642	560	10001
5290B	1785	1388	1573	1417	1515	1316	1435	1254	1460	1062	1573	1418	1515	1316	1435	1254	22716
6340B	810	629	723	643	687	597	651	569	662	481	713	643	687	597	651	569	10302
5300B	1786	1389	1575	1418	1547	1328	1533	1289	1461	1064	1575	1418	1547	1328	1533	1289	23080
6350B	810	630	714	643	702	602	695	585	662	483	714	643	702	602	695	585	10467
5310B	1788	1389	1575	1418	1547	1328	1533	1289	1463	1064	1575	1418	1547	1328	1533	1289	23084
6360B	811	630	714	643	702	602	695	585	663	483	714	643	702	602	695	585	10469
5320B	1788	1389	1575	1418	1548	1329	1533	1289	1463	1064	1575	1418	1548	1329	1533	1289	23088
6370B	811	630	714	643	702	603	695	585	663	483	714	643	702	603	695	585	10471
5330B	1788	1389	1576	1418	1549	1329	1533	1289	1463	1064	1576	1418	1549	1329	1533	1289	23092
6380B	811	630	715	643	702	603	695	585	663	483	715	643	702	603	695	585	10473
5340B	1788	1389	1576	1418	1550	1330	1533	1289	1463	1064	1576	1418	1550	1330	1533	1289	23096
6390B	811	630	715	643	703	603	695	585	663	483	715	643	703	603	695	584	10474
											·						Table 3

# **Location/Space Requirements**

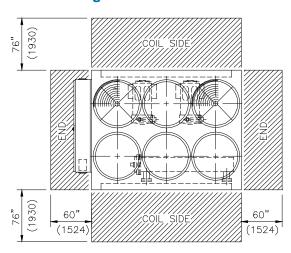
Due to the vertical air flow discharge condenser design, it is recommended that certain precautions are to be taken before installation. There should be no obstruction on the air flow.

Orient the unit so that prevailing winds blow parallel to the unit length thus minimizing the effects on condensing pressure. If it is not practical to orient the unit in this manner, a wind deflecting shield should be considered.

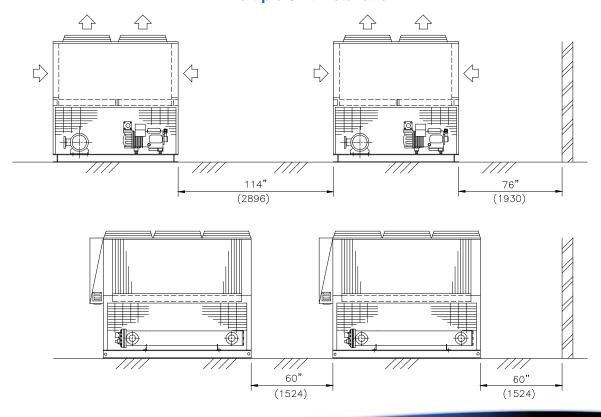
It is also necessary to provide adequate clearance on all sides of the unit for service access and satisfactory performance. This will prevent excessive condensing temperatures and enhance system performance and operating economy.

Refer to Figure A for recommended clearance around chillers to avoid warm air recirculation or coil starvation.

## **Single Unit Installation**



# **Multiple Unit Installation**



# **Application / Installation**

### **Foundation**

A flat concrete foundation or floor which can support the weight of the equipment must be provided as the unit must be level for proper operation and functioning of controls.

### Vibration Isolation

Under certain critical conditions it is recommended that vibration isolators of rubber-in-shear or spring type be installed under the base.

The isolators must be designed for the operating weight of the unit. For operating load points refer to the Dimensional Data. Correct selection of types of isolators depends upon application and structure.

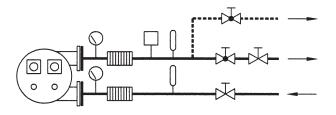
To further reduce the transmission of vibration, it is recommended that flexible water connections suitable for the system pressure be installed on the water inlet and outlet connections of the chiller. For critical applications or locations, services of a noise and vibration expert is recommended.

# **Water Piping Practices**

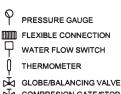
Due to the variety of piping practices, it is advisable to follow the recommendations of local authorities. They can supply the installer with the proper building and safety codes required for a safe and proper installation. Basically the piping should be designed with a minimum number of bends and changes in elevation to keep the system cost down and performance up. It should contain:

Vibration eliminators to reduce vibration and noise transmission to the building.

- Shut-off valves to isolate the unit from the piping system during unit servicing.
- Manual or automatic air vent valves at the high points of the system so that the air can be vented.
- An expansion tank to control system pressure allowing water to expand on increase of water temperature.
- Make necessary arrangements to install a water flow switch on the leaving water connection to ensure adequate waterflow and wire it with the terminals provided in the unit control panel. This will safeguard against slugging the compressor on start-up and shut down the unit should the water flow be interrupted. Refer to the Installation instruction sheet furnished with the water flow switch.
- Temperature and pressure indicators located at the unit to aid in unit servicing.
- A strainer or some means of removing foreign matter from the water before it enters the pump. It should be placed far enough upstream to prevent cavitation at the pump inlet (consult pump manufacturer for recommendations). The use of a strainer will prolong pump life and thus keep system performance up. All building water piping must be flushed prior to making final connection to the chiller.
- Prior to insulating the piping and filling the system a preliminary leak check should be made.
- Piping insulation should include a vapor barrier to prevent moisture condensation and possible damage to the building structure. It is important to have the vapor barrier on the outside of the insulation to prevent condensation within the insulation on the cold surface of the pipe.



TYPICAL CHILLED WATER PIPING



COMPRESION GATE/STOP VALVE

ALTERNATIVE: DOUBLE REGULATING VALVE TO REPLACE GLOBE & GATE VALVE



## **Unit Sizing**

It is strongly recommended to size the chiller for the present load. For future expansion, it is recommended to install another chiller to meet the additional load demand.

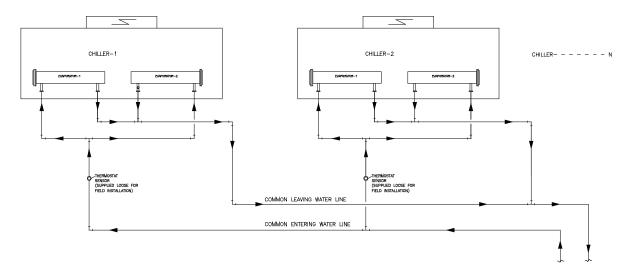
Over sizing of chillers by more than 10% at design conditions must be avoided. Over sizing causes energy inefficiency (more power consumption), erratic system operation and shortened compressor life due to excessive cycling of compressors.

# **Multiple Chiller Operation**

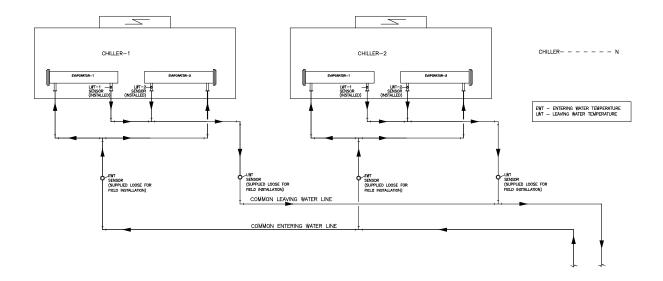
If the capacity requires installing more than one chiller unit or where standby units are desired, units should be of equal size (or near) to ensure balanced water flow.

SKM recommends that water flow supply & return are connected either parallel in case of range < 16°F (8.9°C) or in series if range > 16°F (8.9°C).

## **Chilled Water Piping for Multiple Chiller Installation (With Standard Controls)**



# Chilled Water Piping for Multiple Chiller Installation (With Microprocessor-Magnum Option)



For chillers with two evaporators, pipes for leaving and entering water, from one evaporator should be joined to the corresponding pipe from the other evaporator, before connecting to the main header of the installation.



# **GUIDE SPECIFICATIONS**

### **GENERAL**

The contractor shall supply and install factory assembled air-cooled packaged water chillers, the number and capacity of which shall be as indicated in the capacity schedule shown on the drawings.

Each machine shall consist of at least one refrigerating circuit comprising of hermetic/semi hermetic reciprocating high efficiency compressor(s), air-cooled condenser, evaporator, interconnecting refrigerant piping, controls, safety devices and accessories.

The machine shall be factory assembled, leak tested, evacuated and completely charged with refrigerant R - 22. All factory wiring and piping shall be contained within the machine enclosure. All electrical components shall be protected from the weather.

Air cooled chillers shall be rated in accordance with ARI - 550/590. Each machine shall be capable of operating satisfactorily in a wide range of ambient air temperatures ranging from  $50^{\circ}F$  ( $10^{\circ}C$ ) to  $125^{\circ}F$  ( $52^{\circ}C$ ).

Unless indicated otherwise on electrical wiring diagram, each unit shall be factory equipped to connect to only one electrical power feeder with the necessary circuit breakers, if so specified.

Each unit shall be mounted on anti vibration isolators flexible enough to dampen any vibrations.

## **COMPRESSOR**

Compressors used in Air Cooled Packaged Chillers shall be hermetically sealed, high efficiency, low noise reciprocating/high efficiency and fully accessible semi hermetic reciprocating type with discus valve design. The compressors shall be equipped with crank case heater, refrigerant gas cooled electric motor, preset internal relief valves, oil sight glass, and inherent thermistor motor protection. Semi hermetic compressors shall be with a reversible oil pump. Compressors shall be mounted on anti-vibration mounts to minimize vibration transmission. All compressors shall be provided with an individual 3 pole MCCB for overcurrent, short circuit protection & Isolation in case it is required. Individual 3 pole contactors for switching of the compressors shall be rated for AC3 duty. To reduce the starting inrush on the power supply system, compressors shall be provided with part winding starting if so specified.

### **EVAPORATOR**

Units with smaller capacity shall be with Brazed Plate Heat Exchanger (BPHE). Brazed plate heat exchanger's channel plates, refrigerant and water connections shall be constructed from stainless steel with pure copper as brazing material. The design and assembly process shall comply with Europe Pressure Equipment Directive PED 97/23/EC and maximum working pressure of water side shall be 363 psig (2500 kPa) and refrigerant side shall be 392 psig (2700 kPa).

Larger capacity evaporators shall be of shell and tube, direct expansion with removable head, having 1, 2, and 3 refrigerant circuits. Evaporator header, tube sheet, shell and water connections shall be made of carbon steel. Baffels shall be made of brass/carbon steel. High efficiency tubes shall be in copper.

The evaporator shall be provided with water drain, air vent and fittings for temperature sensors. The evaporator shall be designed for maximum working pressure of water side shall be 145 psig (1000 kPa) and for refrigerant side 363 psig (2500 kPa).

Shell and tube evaporator design, materials specifications and assembly process shall be in compliance with the following codes: CE, GOST, UDT, and ASME.

The shell shall be insulated with 1" (25mm) thick flexible closed cell insulation with a maximum K factor of 0.26 Btu.in/ft².hr.°F (0.038 W/m.°K).

## **CONDENSER COIL**

Condenser coil shall be air cooled and shall be constructed of seamless copper tubes, maximum 4 rows deep, 3/8" (9.52 mm) O.D. and mechanically bonded to the wavy type aluminum fins. Fins spacing shall be maximum 12 FPI (2.1mm). Slit fins shall not be accepted.

Precoated fins shall be used for saline and corrosive environment (if so specified). Integral sub cooling circuit in each coil shall be provided to increase the chiller cooling capacity, without additional operating cost. The coils shall be tested against leakage by air pressure of 450 psig (3100 kPa) under water.

### **CONDENSER FANS & MOTORS**

The machine shall be furnished with direct driven propeller type discharging air upward condenser fans. Fans shall be constructed of corrosion resistant blades such as heavy gauge aluminum. The fan and drive shall be held in proper alignment. Fan assemblies shall be provided with heavy gauge, rust resistant steel. The fan assembly shall be protected with an acrylic coated steel wire fan guard. All condenser fans shall be individually statically and dynamically balanced for vibration free operation.

Condenser fan motor shall be Totally Enclosed Air Over (TEAO), 3-phase type, 6 poles with Class F insulation, Class B temperature rise and IP55 protection. Also, Motor shall be with permanently lubricated bearings and inherent corrosion resistance shaft. Condenser fan motors shall be provided with individual 3 pole contactor rated for AC3 duty operation & motor protector circuit breaker for short circuit, over current protection & isolation.

### **REFRIGERATION CIRCUITS**

Refrigeration circuits piping shall be fabricated from ACR grade copper pipes and each refrigeration circuit shall include a removable core filter drier, liquid line solenoid valve, thermostatic expansion valve, shut of valve, sight glass and hot gas muffler. For single compressor circuits, vibration absorbers on suction and discharge lines shall be provided.

Suction line shall be insulated with  $\frac{1}{2}$ " (13mm) wall thickness closed cell pipe insulation with maximum k factor 0.26 Btu.in/ft². hr.°F (0.038 W/m.°K).



# **GUIDE SPECIFICATIONS**

### **CASING**

Machine casing shall be made of heavy gauge zinc coated galvanized steel sheets conforming to JIS-G 3302 and ASTM-A 635. To provide an extremely tough, scratch resistance, excellent anti-corrosive protection, fabricated steel shall be thoroughly de-greased and then phosphatized before application of an average 60 micron backed electrostatic polyester dry powder coating in RAL 7032 color scheme. This finish shall pass 1000-hour, 5% salt spray test at 95°F (35°C) and 95% relative humidity (ASTM B 117).

Machine casing shall be provided with access doors for easy service and maintenance and painted steel wire guard for compressors section.

The machine shall be fully assembled on welded rigid structural steel skid painted with one coat primer and minimum one coat of rust-preventing black enamel.

## **CONTROL PANEL & CONTROLS**

The unit control panel enclosures shall be fabricated out of heavy gauge sheet steel. The enclosure shall be phospatized and baked after an electrostatic dry powder coat finish and shall be conform to IP-54 protection as per guidelines in IEC-529. Control Panels shall be with dead front panel cover screwed on the enclosure or external panels with hinged doors and key fasteners shall be provided for easy access and security.

Panels shall be factory wired in accordance with NEC 430 & 440, labeled, tagged and shall feature 220/240V single phase controls and to include the following as minimum

- Individual compressor and condenser fan motor contactors.
- Circuit breakers for compressors. (if applicable)
- Condenser fan motor protector circuit breaker.
- Anti-recycle timer to prevent rapid cycling and short cycling of compressors.

- Compressor low pressure safety switch, factory set for each circuit.
- Compressor oil failure and high pressure safety switch, one per compressor, factory set.
- Head pressure control, by fan cycling, for low ambient operation.
- Freeze protection thermostat.
- Multi-step temperature controller to control chiller capacity.
- Control ON / OFF toggle switch for each circuit.
- Control circuit fuses.
- · Manual pump-down switch for each circuit.
- · Run/Trip indication lights.
- Power and control circuit terminal blocks.

### MICROPROCESSOR CONTROL

Microprocessor Controls with transducers and sensors shall be provided for the chiller operation if so specified.

The main features of the controller includes graphical LCD with back-lit screen, a nine button generic keypad, battery backed -up real time clock to program the chiller for 2 starts and 2 stops daily to provide the information about the running hours of the compressors. The multiple authorization levels provides maximum security of the control system. Automatic lead/lag control for the compressors, pump down at the beginning and end of evey circuit cycle, capacity control based on leaving chilled water temperature, remote start/stop facility and volt free contacts for common run, fault and remote mode operation for remote indication, etc.

